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# Model RCRA Research, Development and Demonstration Permit, Fact Sheet and Public Notice

Final Draft  
EPA/530-SW-87-003

Prepared by:

United States Environmental Protection Agency  
Office of Solid Waste  
Storage/Incinerator Permit Assistance Team  
Washington, D.C.

January 1987



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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

216-6  
FEB 26 1988

OFFICE OF  
SOLID WASTE AND EMERGENCY RESPONSE

MEMORANDUM

FEB 19 1988

SUBJECT: Final Draft of the RD&D Model Permit  
FROM: *Tammy Henson for*  
Elizabeth Cotsworth, Acting Chief  
Assistance Branch

TO: Addressees

Attached please find a copy of the final draft of the Research, Development, and Demonstration (RD&D) Model Permit, Fact Sheet and Public Notice under 40 CFR 270.65. A.T. Kearney assisted us in preparing the initial draft. Revisions were then made based on comments from regional permit writers and the Incinerator and Storage PAT team.

The models were developed to assist the permit writers in preparing permits for experimental and innovative hazardous waste treatment activities. In general, the purpose of this document is to provide a checklist of provisions that should be considered for RD&D permits and a suggested format for permit writers to use in preparing permits, fact sheets, and public notices for RD&D permits. Two disk copies of the model - one for the Lexitron and a Multimate disk for the new Telex computer - are also being sent to each Region to facilitate tailoring the model to specific permits.

If you have any questions, please contact either Nestor J. Aviles, FTS 382-2218, or me at FTS 382-4206.

Attachment

Addressees:

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FOREWORD

This Final Draft model Research, Development, and Demonstration (RD&D) permit, fact sheet and public notice are being issued by the U.S. Environmental Protection Agency (EPA), Office of Solid Waste, Storage/Incinerator Permit Assistance Team, to assist permit writers in preparing permits for experimental and innovative hazardous waste treatment activities under Section 3005(g) of the Resource Conservation and Recovery Act (RCRA).

The purpose of this document is to provide a checklist of provisions that should be considered for RD&D permits and a suggested format for permit writers to use in preparing permits, fact sheets and public notices for these permits. Since the document is a Final Draft, specific language may be revised in the future.

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INTRODUCTION TO  
MODEL RESEARCH,  
DEVELOPMENT, AND DEMONSTRATION  
HAZARDOUS WASTE TREATMENT PERMIT

The model Research, Development, and Demonstration (RD&D) permit has been developed to provide a checklist of provisions that potentially will be used in an RD&D permit and a suggested format for permit writers to use in preparing permits for experimental hazardous waste treatment activities under Section 3005(g) of the Resource Conservation and Recovery Act (RCRA).

A. The model should be used in conjunction with the Guidance Manual for Research, Development, and Demonstration Permits Under 40 CFR Section 270.65, EPA/580-SW-86-008.

Because each RD&D proposal is unique, each RD&D permit will be unique. The type of permit conditions and the level of detail in each permit will vary depending upon the type and quantity of hazardous wastes, the treatment process or technology, and the duration of the experiment. Permit writers should use their best judgment and be flexible in establishing RD&D permit conditions.

RCRA Section 3005(g) and 40 CFR §270.65(a) provide the standards for RD&D permits, which are required to include such terms and conditions as will "assure protection of human health and the environment". Where appropriate, the requirements of 40 CFR Parts 264 and 266 will be applied to RD&D activities. Where technologies or processes will be used for which permit standards have not been promulgated under Part 264 or Part 266, EPA will establish terms and conditions as necessary to assure protection of human health and the environment.

Some regulatory provisions must be included explicitly because the standards offer options or the permit conditions must be more explicit than the regulation to be enforceable. In other cases, regulatory provisions are included because of their importance to the Permittee, the regulatory officials, or the public. All regulations incorporated by reference are those in effect on the date of issuance of the permit.

The model also identifies parts of the application that should be incorporated into the permit. For example, the condition covering 40 CFR §264.51(b) - (Implementation of Emergency Response Plan) may read:

The Permittee shall immediately carry out the provisions of the Emergency Response Plan, Attachment \_\_\_\_, whenever there is a fire, explosion, or release of hazardous waste or constituents which threatens or could threaten human health or the environment.

The model permit uses notes [in brackets] following certain permit conditions to explain how they are to be applied. As this information is for the permit writer's use, it should not appear in the permit.

The model is divided into parts covering standard permit conditions, general operating standards, treatment, and associated storage. These parts and their scope are as follows:

- o Part I - Standard Conditions - Covers the standard permit conditions found in 40 CFR Part 270.
- o Part II - General Operating Conditions - Covers the operating conditions found in 40 CFR Part 264, Subparts B, C, D, E, G and H.
- o Part III - Conditions for Storage/Treatment in Containers - Covers the design and operating conditions found in 40 CFR Part 264, Subpart I, for storage of hazardous wastes in containers.
- o Part IV - Conditions for Storage/Treatment in Tanks - Covers the design and operating conditions required by 40 CFR 264, Subpart J, for storage and treatment of hazardous wastes in tanks.
- o Part V - Conditions for Thermal Treatment Processes - Covers the conditions in 40 CFR Part 264, Subpart O and Part 265, Subparts P and Q that should be considered for this type of RD&D activity.

8. The model permit also indicates, through bracketed notes or text, which provisions can be varied or waived. A list of these provisions is provided in Table 1. In addition, certain provisions apply to some, but not all, activities; these provisions and their applicability are provided in Table 2. When preparing an RD&D permit, permit writers should consult Tables 1 and 2, determine which provisions can be waived or are inapplicable, and delete those provisions from the permit.

The language provided in the model permit assumes that the permit applicant has demonstrated (to the appropriate level of detail) that the proposed activity will meet all the requirements in the regulations. The model permit does not explain how decisions dealing with whether the design of an activity is technically adequate will be made by the permit writer. Users of this model should understand that many of the performance standards contained in the model must be amplified by or translated into conditions specific to the activity in question. This model is designed to provide a format for standard permit conditions and to aid permit writers in ensuring that all the applicable requirements of the regulations are addressed by the permit.

Two conditions have not been incorporated into the model but may need to be considered. Section 270.33 deals with compliance schedules and should be used on a case-by-case basis, where appropriate. Such schedules should be specified in the parts of the permit where they are needed. The Agency encourages permittees to submit information on the results of their activity. Conditions addressing this request also should be inserted in the parts of the permit where appropriate.

RD&D activities could be used to prove that the residues resulting from treatment are non-hazardous. In these instances, the RD&D permit may include conditions defining the type of data and analyses on the residues needed for submission of a delisting petition.

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Table 1. Standard Provisions That May Be Tailored

	<u>Provision Number/ Title in Model</u>	<u>Applicability</u>
I.H.2	Duty to Reapply	
II.C	General Inspection Requirements	
II.D	Personnel Qualifications	
II.E	Preparedness and Prevention	
II.F	Emergency Response Plan	
II.G.3	Notification of Closure	
II.G.4	Time Allowed for Closure	
II.J	Liability Requirements	

Table 2. Optional Provisions

I.H.13	Certification of Construction or Modifications	New or Modified Units
I.J	Documents to be Submitted Prior to Operation	Required documents (e.g., financial assurance) incomplete or not submitted at time of permit issuance
II.H	Cost Estimate for Closure	Privately-owned facilities (i.e., non-Federal or State)
II.I	Financial Assurance for Closure	"
II.J	Liability Requirements	"
II.L	Manifest System	Off-site Activities
II.N	General Requirements for Ignitable, Reactive, or Incompatible Waste	Activities handling ignitable, reactive, or incompatible wastes
II.O	Location Standards	Activities located in a 100-year floodplain

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II.P	Required Notices	Importers of hazardous waste
	1. Imports	
	2. Notice to Generators	Off-site activities
II.Q	General Waste Analysis	Activities handling many different wastes
III.G	Special Requirements for Ignitable or Reactive Waste	Activities handling ignitable or reactive wastes in containers
III.H	Special Requirements for Incompatible Waste	Activities handling incompatible wastes in containers
IV.E	Special Requirements for Ignitable or Reactive Wastes	Activities handling ignitable or reactive wastes in tanks
IV.F	Special Requirements for Incompatible Wastes	Activities handling incompatible wastes in tanks
II.Q	General Waste Analysis	Activities handling many different hazardous wastes

C. Throughout the RD&D permit, the permitted entity is referred to as an "activity", rather than a "facility". The term "activity" is used distinguish the experimental technology or process involved from regular hazardous waste management processes.

Finally, the permit must be accompanied by a statement of basis or fact sheet, which should describe the rationale for the conditions in the permit and any waivers that are granted. Where a permit condition reflects an unambiguous regulatory requirement, the fact sheet/statement of basis need merely reference that requirement. Where a permit condition fulfills a performance standard, the fact sheet/statement of basis should explain why or how that condition satisfies the regulation. Where the regulatory basis for a permit condition is not obvious, the fact sheet/statement of basis should clearly support including that condition. A model fact sheet follows the model RD&D permit.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
RESEARCH, DEVELOPMENT AND DEMONSTRATION  
HAZARDOUS WASTE TREATMENT PERMIT

Permittee: \_\_\_\_\_ Permit  
Number: \_\_\_\_\_  
Location of RD&D Activity: \_\_\_\_\_

This permit is issued by the United States Environmental Protection Agency (EPA) under authority of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976, as amended, 42 USC §6901 et seq. (RCRA) and EPA regulations to \_\_\_\_\_ [name of facility] \_\_\_\_\_ (hereafter called the Permittee), to operate a hazardous waste research, development and demonstration activity located in \_\_\_\_\_ [city and state] \_\_\_\_\_ on \_\_\_\_\_ [street address] \_\_\_\_\_, [at latitude \_\_\_\_\_ and longitude \_\_\_\_\_]. The project will test [specify process] as a waste treatment process to decontaminate \_\_\_\_\_ that are contaminated with \_\_\_\_\_.

The Permittee must comply with all terms and conditions of this permit. This permit consists of the conditions contained herein, including those in the Attachments, and the regulations contained in 40 CFR Parts 260 through 265, 124, and 270 as specified in this permit.

This permit is based on the assumption that the information submitted in the permit application attached to the Permittee's letter dated \_\_\_\_\_ as modified by subsequent amendments dated \_\_\_\_\_, and \_\_\_\_\_ (hereafter referred to as the application) is accurate and that the activity will be constructed and/or operated as specified in the application. Any inaccuracies found in this information may be grounds for the termination or modification of this permit (see 40 CFR §§270.41, 270.43, 270.42, and 270.65(c)) and potential enforcement action [42 USC §6925(g)]. The Permittee must inform EPA of any deviation from or changes in the information in the application which would affect the Permittee's ability to comply with the applicable regulations or permit conditions.

This permit is effective as of \_\_\_\_\_ [date] \_\_\_\_\_, and shall remain in effect until \_\_\_\_\_ [date] \_\_\_\_\_, and shall not exceed \_\_\_\_\_ operating days after commencement of experimental treatment, unless revoked and reissued, or terminated in accordance with 40 CFR §§270.41, 270.43 or 270.65.

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PART I - STANDARD CONDITIONS

A. EFFECT OF PERMIT

This permit authorizes only the research on hazardous waste treatment expressly described in this permit and does not authorize any other management of hazardous waste. EPA will consider compliance with the terms of this permit to be compliance with the requirements of RCRA Subtitle C and EPA regulations concerning the management of hazardous waste listed or described in this permit. Issuance of this permit does not convey property rights of any sort or any exclusive privilege; nor does it authorize any injury to persons or property, any invasion of other private rights, or any infringement of State or local laws or regulations. Compliance with the terms of this permit does not constitute a defense to any action brought under Section 7003 of RCRA (42 USC §6973), Section 106 (a) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 USC 9606(a) commonly known as CERCLA), or any other law governing protection of public health or the environment.

B. PERMIT ACTIONS

1. Modification, Revocation, and Termination. This permit may be modified, revoked and reissued, or terminated for cause as specified in 40 CFR §§270.41, 270.43, 270.42, and 270.65. The filing of a request for a permit modification, revocation and reissuance, or termination or the notification of planned changes or anticipated noncompliance on the part of the Permittee does not stay the applicability or enforceability of any permit condition.

2. Protection of Human Health and the Environment. The Regional Administrator may order an immediate termination of all operations under this permit at any time he determines that termination is necessary to protect human health and the environment. [See 40 CFR §270.65(c).]

C. SEVERABILITY

The provisions of this permit are severable, and if any provision of this permit or the application of any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this permit shall not be affected thereby.

D. DEFINITIONS

For the purpose of this permit, terms used herein shall have the same meaning as those in Title 40 of the Code of Federal Regulations (40 CFR Parts 260 through 264 and 270), unless this permit specifically states otherwise; where terms are not otherwise defined, the meaning associated with such terms shall be as defined by a standard dictionary reference or the generally accepted scientific or industrial meaning of the term. "Regional Administrator" is the Regional Administrator of the United States Environmental Protection Agency for the \_\_\_\_\_ [area] \_\_\_\_\_ Region (Region \_\_\_\_\_).

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E. REPORTS, NOTIFICATIONS AND SUBMISSIONS TO THE REGIONAL ADMINISTRATOR

All reports, notifications or other submissions which are required by this permit to be sent or given to the Regional Administrator should be sent certified mail or given to:

[Name, address]  
U.S. Environmental Protection Agency

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
( ) - \_\_\_\_\_

F. SIGNATORY REQUIREMENTS

All reports or other information submitted to the Regional Administrator shall be signed and certified as required by 40 CFR §270.11.

G. DOCUMENTS TO BE MAINTAINED AT THE ACTIVITY SITE

The Permittee shall maintain at the activity site, until closure is completed and certified by an independent registered professional engineer, the following documents and amendments, revisions and modifications to these documents:

[Note: The list of documents to be maintained at the site should be consistent with the plans and documents required by Part II of the permit. Optional plans may include the waste analysis plan, personnel training documents, operating record, operating log, and inspection schedules and logs.]

1. Research plan.
2. Waste analysis plan.
3. Personnel training documents and records.
4. Emergency response plan.
5. Closure plan.
6. Latest adjusted closure cost estimate and date of adjustment.
7. Operating record, including an operating log used for recording purposes.

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8. Inspection schedules and logs.
9. Documents required by Parts \_\_\_\_\_, Sections \_\_\_\_\_ of this permit.

#### H. DUTIES AND REQUIREMENTS

[Note: All conditions in this section should be incorporated into the permit except where it is clear that they do not apply due to the duration of the permit or type of experiment (e.g., duty to reapply).]

1. Duty to Comply. The Permittee shall comply with all conditions of this permit, except to the extent and for the duration such noncompliance is authorized by an emergency permit. Any other permit noncompliance constitutes a violation of RCRA and is grounds for enforcement action, permit termination, revocation and reissuance, modification, or denial of a permit renewal application.
2. Duty to Reapply. If the Permittee wishes to continue an activity allowed by this permit after the expiration date of this permit, the Permittee shall submit a complete application for a new permit at least 180 days before this permit expires.

[Note: The 180-day timeframe for notification may be inappropriate, especially if the permit term is less than one year. The appropriate amount of time for submitting a new application should be determined on a case-by-case basis, although the timeframe generally should not be less than 90 days.]

3. Need to Halt or Reduce Activity Not a Defense. It shall not be a defense for the Permittee in an enforcement action to argue that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.
4. Duty to Mitigate. In the event of noncompliance with this permit, the Permittee shall take all reasonable steps to minimize releases to the environment, and shall carry out such measures as are reasonable to prevent significant adverse impacts on human health or the environment.
5. Proper Operation and Maintenance. The Permittee shall at all times properly operate and maintain all activities and systems of treatment and control (and related appurtenances) which are installed or used by the Permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary systems or similar systems only when necessary to comply with the conditions of the permit.

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6. Permit Actions. This permit may be modified, revoked and reissued, or terminated for cause as specified in 40 CFR §§270.41, 270.42, 270.43, and 270.65(c). The filing of a request for a permit modification, revocation and reissuance, or termination, or the notification of planned changes or anticipated noncompliance on the part of the Permittee does not stay the applicability or enforceability of any permit condition.
  7. Property Rights. The permit does not convey any property rights of any sort, or any exclusive privilege.
  8. Duty to Provide Information. The Permittee shall furnish to the Regional Administrator, within a reasonable time, any relevant information which the Regional Administrator may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The Permittee shall also furnish to the Regional Administrator, upon request, copies of records required to be kept by this permit.
  9. Inspection and Entry. The Permittee shall allow the Regional Administrator, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to:
    - a. Enter at reasonable times upon the Permittee's premises where a regulated activity is located or conducted, or where records must be kept under the conditions of this permit;
    - b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
    - c. Inspect at reasonable times any activities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
    - d. Sample or monitor, at reasonable times for the purposes of assuring permit compliance or as otherwise authorized by RCRA, any substances or parameters at any location.
  10. Monitoring and Records.
    - a. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity in accordance with the research plan in Attachment \_\_\_\_.

[Note: The permit writer should require the Permittee to use sampling and test methods specified in EPA document SW-846, Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, or in other EPA documents. The permit writer can approve other methods as appropriate (e.g., part of the experiment is to establish new sampling or test methods).]

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- b. The Permittee shall retain the final project report and records of all data used to complete the application for this permit for a period of at least \_\_\_\_ years from the date of the sample, measurement, report, or application. These periods may be extended by request of the Regional Administrator at any time and are automatically extended during the course of any unresolved enforcement action regarding this facility.

[Note: 40 CFR §270.30(j)(2) specifies a three-year recordkeeping period. The permit writer may establish a shorter period for RD&D permits.]

- c. Records of monitoring information shall specify:

- (1) The dates, exact place, and times of sampling or measurements;
- (2) The individuals who performed the sampling or measurements;
- (3) The dates analyses were performed;
- (4) The individuals who performed the analyses;
- (5) The analytical techniques or methods used; and
- (6) The results of such analyses.

[Note: The permit writer and the Permittee should mutually determine the appropriate monitoring, recordkeeping, and reporting requirements that will provide sufficient monitoring data about the operating conditions, efficiency, and performance of the RD&D activity. The research plan must specify the proposed monitoring and recordkeeping activities. The permit writer can also establish recordkeeping and reporting requirements as deemed necessary to assure proper protection of human health and the environment.]

11. Prospective Changes in Operation. If the Permittee wishes to make any changes in the operation of the RD&D unit, he must notify the Regional Administrator no less than fourteen (14) calendar days before the date he intends to make the change. This notification must be by certified mail. Changes in the operation of the RD&D unit include, but are not limited to, alteration of the treatment technology, use of different pollution control devices, and any changes in the operation of the activity not authorized in this permit that may affect human health or the environment.
12. Anticipated Noncompliance. The Permittee shall give advance notice to the Regional Administrator of any planned changes in the permitted activity which may result in noncompliance with permit requirements.
13. Certification of Construction or Modification. The Permittee may not commence [specify the treatment activity] of hazardous waste at the facility until:

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- (a) The Permittee [and a registered professional engineer] have notified the Regional Administrator that the activity has been [constructed/modified] in compliance with the permit; followed by a letter signed by the Permittee [and a registered professional engineer] stating that the activity has been [constructed/modified] in compliance with the permit; and

[Note: Certification from a registered professional engineer is not required if the activity involves lab scale or bench scale technology or processes. Certification from a registered professional engineer should be required if a full scale unit is constructed or modified for the RD&D activity.]

- (b)(i) The Regional Administrator has inspected the modified or newly constructed activity and finds it is in compliance with the conditions of the permit; or

- (b)(ii) The Regional Administrator has either waived the inspection or has not within 72 hours notified the Permittee of his or her intent to inspect.

14. Twenty-Four Hour Reporting. The Permittee shall report to the Regional Administrator any noncompliance which may endanger human health or the environment. Information shall be provided orally within twenty-four (24) hours from the time the Permittee becomes aware of the circumstances. This report shall include the following:

- a. Information concerning release of any hazardous waste that may cause an endangerment to public drinking water supplies.

- b. Any information of a release or discharge of hazardous waste, or of a fire or explosion from the hazardous waste research, development and demonstration activity, which could threaten the environment or human health outside the activity. The description of the occurrence and its cause shall include:

- (1) Name, address, and telephone number of the owner or operator;
- (2) Name, address, and telephone number of the activity site;
- (3) Date, time, and type of incident;
- (4) Name and quantity of material(s) involved;
- (5) The extent of injuries, if any;
- (6) An assessment of actual or potential hazard to the environment and human health outside the activity, where this is applicable; and

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- (7) Estimated quantity and disposition of recovered material that resulted from the incident.

A written submission shall also be provided to the Regional Administration within five (5) days of the time the Permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the periods of noncompliance (including exact dates and times); if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. The Permittee need not comply with the 5-day written notice requirement if the Regional Administrator waives that requirement and the Permittee submits a written report within fifteen (15) days of the time the Permittee becomes aware of the circumstances.

15. Other Noncompliance. The Permittee shall report all other instances of noncompliance not otherwise required to be reported above, at the time monitoring reports are submitted. The reports shall contain the information listed in permit condition 14.
16. Other Information. Whenever the Permittee becomes aware that he or she failed to submit any relevant facts in the permit application, or submitted incorrect information in a permit application or in any report to the Regional Administrator, the Permittee shall promptly submit such facts or information to the Regional Administrator.
17. Transfer of Permit. This permit may not be transferred to a new owner and operator unless it is modified or revoked and reissued pursuant to 40 CFR §270.41(b)(2) or 270.42(d).

I. CONFIDENTIAL INFORMATION

Any information required to be submitted by this permit may be claimed as confidential in accordance with 40 CFR §§270.12 (Confidentiality of Information) and 2.203(b) (Public Information, Subpart B-Conditional Business Information).

J. DOCUMENTS TO BE SUBMITTED PRIOR TO OPERATION

[Note: Include here the requirement to submit any documents not complete or ready at the time of permit issuance (e.g., the executed financial assurance instruments) with the schedule for such submission.]

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PART II - GENERAL OPERATING CONDITIONS

A. DESIGN AND OPERATION OF HAZARDOUS WASTE RD&D ACTIVITY

The Permittee shall maintain and operate the activity to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste constituents to air, soil, or surface water which could threaten human health or the environment. (See 40 CFR §264.31.)

[Note: Permit writers are encouraged to include more specific conditions to implement this requirement when the regulatory basis for such conditions can be established. Throughout the model, conditions where this should be done are indicated in the notes.]

B. RESEARCH PLAN

[Note: If the permit application contains experimental procedures rather than a formal research plan, this condition should be titled "Experimental Procedures."]

The Permittee shall follow the procedures described in the attached research plan, Attachment \_\_\_\_.

C. GENERAL INSPECTION REQUIREMENTS

The Permittee shall follow the inspection plan set out in the inspection schedule, Attachment \_\_\_\_\_. The Permittee shall remedy any deterioration or malfunction discovered by an inspection as required by 40 CFR §264.15(c). Records of inspections shall be kept as required by 40 CFR §264.15(d).

[Note: Permit writers may waive this requirement if it is determined that periodic inspections are not necessary to protect human health and the environment (e.g., due to the short duration of the experiment). When an inspection schedule is attached to the permit, the applicable regulatory requirements of §§264.174, 264.194, 264.347, 265.377, and 265.403 must be covered by the schedule.]

D. PERSONNEL QUALIFICATIONS

The Permittee shall ensure that personnel are qualified to manage hazardous waste as provided in Attachment \_\_\_\_\_. This training program shall follow the attached outline, Attachment \_\_\_\_\_. All personnel involved with activities under this permit shall receive this training prior to initiation of activities under this permit as described in the attached outline, Attachment \_\_\_\_\_. The Permittee shall maintain training documents and records as required by 40 CFR §264.16(d) and (e).

[Note: Permit writers may waive this requirement if it is determined that training is not necessary to protect human health and the environment (e.g., all employees involved in the experiment are already trained).]

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E. PREPAREDNESS AND PREVENTION

[Note: Any or all of these provisions may be waived if it is determined that communications and emergency equipment and aisle space are not necessary under 40 CFR §§264.32 or 264.35. Such a determination should be discussed in the administrative record.]

1. Required Equipment. At a minimum, the Permittee shall provide the activity with the equipment set forth in the emergency response plan, Attachment \_\_\_\_.
2. Testing and Maintenance of Equipment. The Permittee shall test and maintain the equipment specified in the previous permit condition and in Attachment \_\_\_\_ as necessary to assure its proper operation in time of emergency.
3. Access to Communications or Alarm System. The Permittee shall maintain access to the communications or alarm system as required by 40 CFR §264.34 and as specific in Attachment \_\_\_\_.
4. Required Aisle Space. At a minimum, the Permittee shall maintain aisle space as required by 40 CFR §264.35 and as specified in Attachment \_\_\_\_.
5. Arrangements With Local Authorities. The Permittee shall maintain arrangements with State and local authorities as required by 40 CFR §264.37. If State or local officials refuse to enter into or renew existing preparedness and prevention arrangements with the Permittee, the Permittee must document this refusal in the operating record.

[Note: The Permittee is required to describe arrangements with local authorities in the Emergency Response Plan. See 40 CFR §264.52(c).]

F. EMERGENCY RESPONSE PLAN

[Note: The permit writer may waive this requirement if it is determined that an emergency response plan is not necessary to protect human health and the environment. The basis for this determination should be documented in the administrative record.]

1. Implementation of Plan. The Permittee shall immediately carry out the provisions of the emergency response plan, Attachment \_\_\_\_, and follow the emergency procedures described by 40 CFR §264.56 whenever there is an imminent or actual fire, explosion, or release of hazardous waste or constituents which threatens or could threaten human health or the environment.

[Note: The Emergency Response Plan must meet the requirements of §§264.51(a), 264.52 and 264.56.]

2. Copies of Plan. The Permittee shall comply with the requirements of 40 CFR §264.53.

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3. Amendments to Plan. The Permittee shall review and immediately amend, if necessary, the emergency response plan, as required by 40 CFR §264.54.

[Note: Amendments to the plan are subject to the permit modification requirements of 40 CFR Part 270.]

4. Emergency Coordinator. The Permittee shall comply with the requirements of 40 CFR §264.55.

[Note: For new activities, the names, addresses, and phone numbers of all persons qualified to act as emergency coordinators shall be supplied to the Regional Administrator at the time of certification as required by Part I, Section J. See 40 CFR §264.52(d).]

#### G. CLOSURE

1. Performance Standard. The Permittee shall close the activity as required by 40 CFR §264.111 and in accordance with the closure plan, Attachment \_\_\_\_.

[Note: The closure plan must meet the requirements of 40 CFR §264.112(a). The specific closure requirements of §§264.178, 264.197, 264.351, 265.381, and 265.404 must be covered by the attached plan when applicable.]

2. Amendment to Closure Plan. The Permittee shall amend the closure plan in accordance with 40 CFR §264.112(b) whenever necessary.
3. Notification of Closure. The Permittee shall notify the Regional Administrator by certified mail at least \_\_\_\_ days prior to the date he expects to begin closure.

[Note: 40 CFR §264.112(d) requires notification at least 45 days prior to the beginning of closure activities for non-disposal units. This timeframe may be inappropriate for an RD&D activity, and a shorter timeframe should be established.]

4. Time Allowed for Closure. After receiving the final volume of hazardous waste, the Permittee shall treat or remove from site all hazardous waste and shall complete closure activities in accordance with the schedules specified in the closure plan, Attachment \_\_\_\_.

[Note: 40 CFR §264.113 requires treatment and/or removal of all hazardous waste within 90 days of receipt of the final volume of hazardous waste and completion of closure activities within 180 days after receiving the final volume. These timeframes may be inappropriate for RD&D activities. In the case of the 90-day timeframe, the permit writer should consider a longer timeframe, such as within 90 days after completing all experimental activities. In the case of the 180-day timeframe, longer or shorter times should be considered, depending on the timeframe set for treatment and/or removal of waste and the expected operating life of the RD&D activity.]

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5. Disposal or Decontamination of Equipment. The Permittee shall decontaminate and/or dispose of all equipment used in the RD&D activity as required by 40 CFR §264.114 and the closure plan, Attachment \_\_\_\_.
6. Disposal of Hazardous Waste. All hazardous waste on-site at the commencement of closure shall be removed from the site by transporting it to a permitted or interim status treatment, storage, or disposal facility or rendered non-hazardous. The waste shall not be returned to the source of the waste unless the source is permitted or has interim status to manage the waste.
7. Certification of Closure. The Permittee shall certify that the activity has been closed in accordance with the specifications in the closure plan, Attachment \_\_\_\_, as required by 40 CFR §264.115.

#### H. COST ESTIMATE FOR CLOSURE

1. Adjustment for Inflation. The Permittee must adjust the closure cost estimate for inflation as required by 40 CFR §264.142(b).
2. Adjustment for Changed Conditions. The Permittee must revise the closure cost estimate whenever there is a change in the activity closure plan as required by 40 CFR §264.142(c).
3. Availability. The Permittee must keep at the activity site the latest closure cost estimate as required by 40 CFR §264.142(d).

#### I. FINANCIAL ASSURANCE FOR CLOSURE

The Permittee has demonstrated compliance with 40 CFR §264.143 by providing documentation of financial assurance, as required by 40 CFR §264.151, in at least the amount of the cost estimates required by permit condition II.H. The Permittee has demonstrated compliance with this permit condition by submitting the required documentation to the Regional Administrator at least 60 days before initial receipt of wastes. The Permittee's financial assurance has been effective prior to operation of the activity. Any changes in financial assurance mechanisms must be approved by the Regional Administrator, pursuant to 40 CFR §264.143 or §264.149.

#### J. LIABILITY REQUIREMENTS

The Permittee shall comply with the requirements of 40 CFR §264.147 and the documentation requirements of 40 CFR §264.151, including the requirements to have and maintain liability coverage for sudden accidental occurrences in the amount of at least \$1 million per occurrence with an annual aggregate of at least \$2 million, exclusive of legal defense costs. The Permittee has submitted the required documentation to the Regional Administrator at least 60 days before the initial receipt of waste. The Permittee's liability coverage will be effective before the Permittee operates the activity.

[Note: The Regional Administrator may grant a variance from the above levels of financial responsibility in accordance with 40 CFR §264.147(c) and (d).]

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K. INCAPACITY OF OWNER/OPERATORS, GUARANTORS, OR FINANCIAL INSTITUTIONS

The Permittee shall comply with 40 CFR §264.148 whenever necessary.

L. MANIFEST SYSTEM

The Permittee shall comply with the manifest requirements of 40 CFR §§264.71, 264.72, and 264.76.

M. SECURITY

The Permittee shall comply with the security provisions of 40 CFR §264.14(b) and (c).

N. GENERAL REQUIREMENTS FOR IGNITABLE, REACTIVE, OR INCOMPATIBLE WASTE

The Permittee shall comply with the requirements of 40 CFR §264.17(a).

[Note: Conditions specific to different types of storage (i.e., tanks or containers) which address §264.17(b) and (c) are specified in the proper part of the model permit.]

O. LOCATION STANDARDS

[Note: Seismic Considerations - If the proposed (new) activity is located in an area listed in Appendix VI of 40 CFR Part 264, the applicant must have demonstrated compliance with 40 CFR §264.18(a). This must be documented in the administrative record.]

[Note: Floodplains - If the proposed (new) activity is not located in a hundred year floodplain, no permit condition is needed. This must be documented in the administrative record. For activities located in the 100-year floodplain, the permit must set forth conditions by which the Permittee will meet the requirements of 40 CFR §264.18(b). Existing activities not in compliance with 40 CFR §264.18(b) must be placed on a compliance schedule. (See 40 CFR §270.14(b)(1)(v) and §270.33.)]

P. REQUIRED NOTICES

1. Imports. The Permittee shall notify the Regional Administrator in writing at least four weeks in advance of the date the Permittee expects to receive hazardous waste from a foreign source. Notice of subsequent shipments of the same waste from the same foreign source in the same calendar year is not required.
2. Notice to Generators. When the Permittee is to receive hazardous waste from an off-site source (except where the Permittee is also the generator), he must inform the generator in writing that he has the appropriate permits for, and will accept the waste the generator is shipping. The Permittee must keep a copy of this written notice as part of the operating record.

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Q. GENERAL WASTE ANALYSIS

The Permittee shall follow the procedures described in the attached Waste Analysis Plan, Attachment \_\_\_\_\_.

[Note: This is an optional requirement which may be applied on a case-by-case basis for activities handling many different hazardous wastes.]

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PART III - CONDITIONS FOR STORAGE/TREATMENT IN CONTAINERS

[Note: The permit writer must determine the type and relevance of permit conditions for containers on a case-by-case basis according to the scope of the RD&D proposal.]

A. WASTE IDENTIFICATION

The Permittee may store and/or treat the following wastes in containers, subject to the terms of this permit.

<u>EPA Hazardous Waste Code</u>	<u>Description</u>
-------------------------------------	--------------------

B. CONDITION OF CONTAINERS

If a container holding hazardous waste is not in "good condition" (e.g., severe rusting, apparent structural defects) or if it begins to leak, the Permittee shall transfer the hazardous waste from such container to a container that is in good condition or otherwise manage the waste in compliance with the conditions of this permit. (See 40 CFR §264.171.)

C. COMPATIBILITY OF WASTES WITH CONTAINERS

The Permittee shall assure that the ability of the container to contain the waste is not impaired, as required by 40 CFR §264.172.

[Note: Specific procedures or equipment required to assure compliance with this standard should be included in the permit (e.g., liner specifications, testing procedures).]

D. MANAGEMENT OF CONTAINERS

The Permittee shall manage containers as required by 40 CFR §264.173.

E. CONTAINMENT

The Permittee shall construct and/or maintain the containment system as required by 40 CFR §264.175 and the attached plans and specifications, Attachment \_\_\_\_\_. The containers shall be elevated to assure that they are protected from contact with accumulated liquids resulting from leaks, spills, or precipitation. (See note on next page).



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[Note: The design plans and operating specifications attached to the permit must demonstrate how the Permittee will meet all the requirements of 40 CFR §264.175. The administrative record should so indicate. It should be noted that §264.175(b) addresses areas that store liquid wastes in containers. Section 264.175(c) addresses areas that store only solid wastes in containers.]

F. MAXIMUM WASTE STORAGE CAPACITY

The maximum amount of container storage and/or treatment shall be [quantity] containers, with each container having a capacity of [specified volume].

G. SPECIAL REQUIREMENTS FOR IGNITABLE OR REACTIVE WASTE

The Permittee shall not locate containers holding ignitable or reactive waste within 15 meters (50 feet) of the activity's property line.

H. SPECIAL REQUIREMENTS FOR INCOMPATIBLE WASTE

1. The Permittee shall not place incompatible wastes or incompatible wastes and materials in the same container unless the procedures specified in Attachment \_\_\_\_\_ are followed, as required by 40 CFR §§264.17(b) and 264.177(a).

[Note: The attachment should specify how the Permittee will handle incompatible wastes so as to comply with 40 CFR §264.17(b). If the application does not address this, the permit writer should write specific conditions to implement this requirement or should condition the permit so as not to allow this practice.]

2. The Permittee shall not place hazardous waste in an unwashed container that previously held an incompatible waste or material.
3. The Permittee shall separate containers of incompatible wastes as indicated in the attached plans, Attachment \_\_\_\_\_, as required by 40 CFR §264.177(c).

[Note: The attachment should specify how the Permittee will comply with §264.177(c) to prevent fires, explosions, etc.]

4. The Permittee must document compliance with condition III.H.(1) and (2) ~~as~~ required by 40 CFR §264.17(c) and place this documentation in the operating record.

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PART IV - CONDITIONS FOR STORAGE/TREATMENT IN TANKS

[Note: The title of this part should reflect the RD&D activity involving tanks (i.e., storage in tanks or specific experimental conditions for tank treatment). Where some tanks will be used for storage and others will be used for treatment, the permit writer should prepare a discrete permit part for each activity.]

A. WASTE IDENTIFICATION

The Permittee may [store and treat] the following hazardous wastes in tanks, subject to the terms of this permit:

a. Tanks EPA Hazardous Waste No.  
[tank number and description]

B. DESIGN AND CONSTRUCTION OF TANKS

The Permittee shall construct, modify, and maintain all tanks in accordance with the requirements of 40 CFR §264.191 and the plans and specifications in Attachment \_\_\_\_.

[Note: The attached plans and specifications must demonstrate compliance with 40 CFR §264.191.]

C. PROTECTION FROM OVERFILLING

[Note: This condition is optional. The permit writer can waive it if it is determined that overfilling controls are not necessary to protect human health and the environment (e.g., the waste is a solid or the tank is batch-fed).]

The Permittee shall prevent overfilling of tanks by the methods specified in Attachment \_\_\_\_ and summarized below.

Tanks Type of Control  
[tank number and description]

[Note: The attachment must demonstrate how the activity will comply with 40 CFR §264.192(b).]

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D. OPERATING CONDITIONS

[Note: The operating conditions for treatment tanks must be established on a case-by-case basis and must reflect the experimental procedures proposed by the permit applicant. These conditions should specify the process parameters to be regulated (which will be suggested by the applicants) and operating ranges for each parameter (which will be agreed to by the permit writer and the applicants). The ranges should be flexible, provide sufficient latitude so that useful experimentation can occur, and assure protection of human health and the environment.] The following are examples of hypothetical parameters and ranges:

(Typical) <u>Process Parameter</u>	<u>Operating Range</u>
Tank internal pressure	0-25 psig (These must conform with applicable pressurized vessel codes.)
Tank temperature	100° - 250° F.
Oxygen feed rate	0 - 100 lbs./hr.
Batch size	0 - 5,000 lbs.
Agitator speed	5-20 rpm

E. SPECIAL REQUIREMENTS FOR IGNITABLE OR REACTIVE WASTES

1. The Permittee shall not place ignitable or reactive waste in a tank unless the procedures described in Attachment \_\_\_\_\_ are followed, as required by 40 CFR §264.198(a).

[Note: The attachment must demonstrate how the activity will handle ignitable and reactive wastes as required by 40 CFR §264.198(a).]

2. The Permittee shall document compliance with IV.D.1 as required by 40 CFR §264.17(c) and place this documentation in the operating record.
3. The Permittee shall maintain buffer zones around covered tanks as specified in Attachment \_\_\_\_\_, as required by 40 CFR §264.198(b).

[Note: The attachment must demonstrate compliance with 40 CFR §264.198(b).]

F. SPECIAL REQUIREMENTS FOR INCOMPATIBLE WASTES

1. The Permittee shall not place incompatible wastes in the same tank or place hazardous waste in a tank that previously held an incompatible waste or material unless the procedures specified in Attachment \_\_\_\_\_ are followed, as required by 40 CFR §264.17(b) and §264.199. (See note on next page)

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[Note: The attachment must specify how the Permittee will handle incompatible wastes so as to comply with 40 CFR §264.17(b). If the application does not address this, the permit writer should write specific conditions to implement this provision or should condition the permit so as not to allow this practice.]

2. The Permittee shall document compliance with condition IV.E.1 as required by 40 CFR §264.17(c) and place this documentation in the operating record.

[Note: The permit writer should add other permit conditions (1) as necessary to meet the applicable requirements of 40 CFR Part 264, Subpart J (Tanks) or 40 CFR Part 265, Subparts P (Thermal Treatment) or Q (Chemical, Physical, and Biological Treatment) or (2) as deemed necessary to protect human health and the environment. These conditions may include secondary containment, corrosion protection, or leak detection. See the new tank system regulations, 51 Fed. Reg. 25.422, July 14, 1986, for additional conditions.]

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PART V - CONDITIONS FOR THERMAL TREATMENT PROCESSES

[Note: This part of the permit specifies the conditions for RD&D experiments involving thermal treatment. The title should reflect either the type of treatment or the type of unit in which treatment will occur (e.g., circulating bed combustor).]

The performance standards of 40 CFR Part 264, Subpart O for incinerating (or thermally treating) hazardous waste may be applied on a case-by-case basis for RD&D thermal treatment units, where appropriate. These requirements should be used as a basis for developing permit conditions to monitor emissions to assure protection of human health and the environment. Any performance standards different from §264.343 requirements for the destruction and removal efficiency (DRE), hydrochloric acid (HCl) removal efficiency, and particulates removal should be substantiated with alternative monitoring methods, identification of the constituents intended for analysis, and an explanation as to how these alternative methods will ensure protection of human health and the environment.

The operating standards in 40 CFR Part 265, Subparts P (Thermal Treatment) and Q (Chemical, Physical, and Biological Treatment) may also be applied on a case-by-case basis for RD&D treatment units, as appropriate.]

A. CONSTRUCTION AND MAINTENANCE

The Permittee shall [construct and] maintain the (specify the type of thermal treatment) unit and the testing activity in accordance with the design plans and specifications in Attachment \_\_\_\_.

B. WASTE IDENTIFICATION

The Permittee may treat with (specify the type of thermal treatment) the following hazardous wastes, subject to the terms of this permit:

[Note: There are several options for identifying the wastes to be treated. The first option covers situations where it is not practical to list all of the wastes that an activity might be permitted to treat. In this option, criteria are specified to establish limitations on the physical and chemical characteristics of the waste input to the activity. The second option also covers situations where it is not practical to list all of the wastes. In this option, the wastes which cannot be treated are specified. The third option simply entails identifying each waste or class of waste that the Permittee is permitted to treat. Examples of recommended language for these three options are presented below.]

OPTION 1:

- o The physical form of the waste shall be \_\_\_\_\_. [Specify whether the waste is in the form of a solid or liquid.]
- o The facility shall detonate only those waste explosive classified as DOT Class \_\_\_\_ [A, B or C].

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OPTION 2:

- o No more than \_\_\_\_ kg of waste explosives can be detonated as a single charge.
- o The Permittee may treat any RCRA waste listed in 40 CFR §§261.31-261.33 as of the effective date of this permit, subject to the conditions of this permit, except for the following:

EPA Hazardous Waste  
Number

Description

OPTION 3:

EPA Hazardous Waste  
Number

Description

Amount

K045

Spent carbon from the treatment of  
wastewater containing explosives

[Specify  
allowable  
quantities  
that can be  
treated at any  
one time.]

P081

Nitroglycerine

P112

Tetranitromethane

C. MAXIMUM WASTE TO BE TREATED

The Permittee shall not treat more than (specify quantities and treatment rates, if applicable, of hazardous waste) during the term of this permit.

[Note: If the experiment involves several activities, such as storage, laboratory testing, and pilot-scale testing, this condition should contain a separate subcondition identifying the waste limits for each activity. Examples of recommended language are:

- o The Permittee may not treat more than 10 pounds of any hazardous waste, specified in condition V.B of this permit, for each laboratory test.
- o The Permittee may store and treat a maximum of \_\_\_\_ pounds of hazardous waste specified in condition V.B of this permit during the term of this permit.]

D. OPERATING CONDITIONS

The Permittee shall operate the (specify the type of thermal treatment) unit only under the following conditions and as specified in Attachment \_\_\_\_ of this permit: (See note on next page)

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[Note: This permit condition will be based on the information in the permit application and the applicable regulations. Where appropriate, the operating requirements in 40 CFR Part 264, Subpart O and Part 265, Subparts P and Q may be applied. The performance standards in 40 CFR §264.343 should be applied as discussed above in the introductory note.

The following conditions are examples of conditions applicable to incineration and thermal treatment. Most of these conditions (parameters and ranges) can be drawn from the research plan or experimental procedures proposed in the permit application.

1. The combustion temperature shall be between \_\_\_\_ and \_\_\_\_.
2. The residence time shall be between \_\_\_\_ and \_\_\_\_.
3. The turbulence rate shall be between \_\_\_\_ and \_\_\_\_.
4. The combustion gas velocity shall be between \_\_\_\_ and \_\_\_\_.
5. The maximum waste feed rate shall be \_\_\_\_.
6. The afterburner temperature shall be between \_\_\_\_ and \_\_\_\_.
7. The stack gas concentration of carbon monoxide shall be less than \_\_\_\_ ppm.
8. The scrubber liquid shall be maintained at a pH between \_\_\_\_ and \_\_\_\_.
9. The circulating bed velocity shall be maintained between \_\_\_\_ and \_\_\_\_ ft/sec.
10. The Permittee shall control fugitive emissions from the (type of thermal treatment) unit by (state procedure) and as specified in Attachment \_\_\_\_.
11. During start-up and shut-down of the (specify the type of thermal treatment) unit, hazardous wastes may not be introduced into the unit unless the unit is operating within the conditions specified in permit condition V.D.
12. The Permittee must cease [operation or waste feed] when the operating conditions exceed limits designated in this permit.
13. The Permittee shall monitor and analyze the parameters specified in the test plan, Attachment \_\_\_\_, according to the methods and frequency specified in Attachment \_\_\_\_\_. The Permittee shall implement the QA/QC program specified in Attachment \_\_\_\_\_.]

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E. TEST PLAN AND REPORTING

[Note: The permit writer must determine the type of and need for reporting requirements on a case-by-case basis. See 40 CFR §§270.19, 270.62, and 270.65(a)(3) for the types of information that could be requested.]

The following are examples of permit conditions that may apply.

1. Test Plan. The Permittee shall operate and monitor the (specify the type of thermal treatment) unit during the term of the permit and as specified in Attachment \_\_\_\_.
2. Hazardous Waste. The hazardous waste for which new information is being gathered under the test demonstration is:

EPA ID No.

Description

3. POHCs. The principal organic hazardous constituents (POHCs) are \_\_\_\_\_.
4. Test Data Submissions. The Permittee shall submit a report to the Regional Administrator upon completion of the tests, but not later than (timeframe) following the term of the permit. This report will summarize the test results and discuss the feasibility or infeasibility of the experimental activities based on the operating conditions specified in this permit. QA/QC results shall be submitted with this report. All submissions must be certified in accordance with 40 CFR §270.11. The Permittee shall make any raw data available to EPA upon written request.

[Note: The permit writer may require submission of progress or interim reports, where appropriate.]

5. The Permittee shall report the information specified in Attachment \_\_\_\_ to the Regional Administrator according to the schedule in Attachment \_\_\_\_.

F. STACK SAMPLING AND MONITORING PLAN

The Permittee shall monitor the following parameters in the stack:

[Note: The following are examples of permit conditions that may apply to certain thermal treatment units. The permit writer must determine the appropriate monitoring conditions on a case-by-case basis according to the objectives of the research plan.]



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1. oxygen, continuous
2. carbon monoxide, continuous
3. carbon dioxide
4. nitrogen oxides
5. hydrochloric acid
6. total chlorinated organic content
7. total particulates
8. sulfur oxides]

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Date Signed

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[name and title]  
Regional permit authority

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LIST OF ATTACHMENTS

[Note: The following list of attachments is provided for illustrative purposes only. Attachments will vary and must be specified on a case-by-case basis.]

1. Research Plan [This document may also be called Experimental Procedures or Test Plan.]
2. Waste Analysis Plan
3. Inspection Schedule
4. Personnel Training
5. Emergency Response Plan
6. Closure Plan
7. Plans and Specifications - Container Storage
8. Incompatible Waste Procedures - Container Storage
9. Plans and Specifications - Tanks
10. Tank Overfilling Control Procedures
11. Ignitable/Reactive Waste Procedures - Tanks
12. Incompatible Waste Procedures - Tanks
13. Plans and Specifications - (Specify the type of Thermal Treatment Unit)
14. Emissions Control Procedures [This document may also be called Stack Testing and Monitoring Plan.]

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- FACT SHEET -  
FOR DRAFT RESEARCH, DEVELOPMENT AND DEMONSTRATION PERMIT

This fact sheet has been developed for the draft Resource Conservation and Recovery Act (RCRA) permit for research, development and demonstration (RD&D) of a hazardous waste treatment [process or technology] which EPA intends to issue to \_\_\_\_\_ (Permittee). This fact sheet was prepared in accordance with the requirements of 40 CFR §124.8.

A. PURPOSE OF THE PERMITTING PROCESS

The purpose of the permitting process is to afford the Environmental Protection Agency (EPA), interested citizens and other governmental agencies the opportunity to evaluate the ability of the Permittee to comply with the applicable hazardous waste management requirements promulgated under the Solid Waste Disposal Act (commonly referred to as the Resource Conservation and Recovery Act or "RCRA"). EPA is required to prepare a draft permit which sets forth in one concise document all the applicable requirements with which the Agency intends to require the Permittee to comply during the one-year duration of the permit. The public is given forty-five days to review the application and comment on the draft permit conditions prior to EPA taking any final action on the application for a hazardous waste RD&D permit.

B. PROCEDURES FOR REACHING A FINAL DECISION

Section 7004(b) of RCRA and 40 CFR §124.10 require that the public be given forty-five (45) days to comment on each draft permit prepared under the Resource Conservation and Recovery Act. The comment period will begin on \_\_\_\_\_ and will end on \_\_\_\_\_. Any person interested in commenting on the application or draft permit must do so within this forty-five (45) day comment period.

All persons wishing to comment on any of the permit conditions or the permit application should submit the comments in writing to the Environmental Protection Agency (EPA), Region \_\_\_\_\_, [Region's address] \_\_\_\_\_, Attention: \_\_\_\_\_ [name] \_\_\_\_\_, [title] \_\_\_\_\_, [office or division] \_\_\_\_\_. Comments should include all reasonably available references, factual grounds and supporting material.

EPA has scheduled a public hearing on the draft permit for \_\_\_\_\_ [date] at the following location:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

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Any written comments should be addressed to \_\_\_\_\_ [EPA name] \_\_\_\_\_  
[title] \_\_\_\_\_ [address] \_\_\_\_\_  
\_\_\_\_\_

When making a determination regarding the issuance of a hazardous waste permit to \_\_\_\_\_ [facility name] \_\_\_\_\_, EPA will consider all written comments received during the comment period, any oral or written statements received during the public hearing, the requirements of the hazardous waste regulations of 40 CFR Parts 124, 260-265, and 270 and the Agency's permitting policies.

When EPA makes a final permit decision to either issue, deny or modify the permit, notice will be given to the applicant and each person who has submitted written comments or requested notice of the final decision. If no comments requested a change in the draft permit, the final permit shall become effective immediately upon issuance.

Contact person for the \_\_\_\_\_ [facility name] \_\_\_\_\_ draft permit is:

U.S. Environmental Protection Agency  
Region \_\_\_\_\_  
\_\_\_\_\_  
( ) - \_\_\_\_\_

### C. AUTHORITY FOR ISSUING RD&D PERMITS

On November 8, 1984, the President signed into law the Hazardous and Solid Waste Amendments of 1984 (HSWA), which amended the Resource Conservation and Recovery Act (RCRA). RCRA, as amended by HSWA, under Section 3005(g), and as codified in 40 CFR Section 270.65 on July 15, 1985, allows the Agency to permit research, development, and demonstration activities utilizing a technology or process for which permit standards have not been promulgated under 40 CFR Parts 264 or 266.

The new Section 270.65 provides that:

- o EPA may issue RD&D permits for technologies that treat hazardous waste in an innovative and experimental manner.
- o An RD&D permit may provide for the receipt and treatment of only those types and quantities of hazardous waste that are necessary to determine the efficacy and performance capabilities of the technology or process and its effects on human health and the environment.
- o RD&D permits shall include any conditions that the Agency believes are necessary to protect human health and the environment.

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- o The Agency may modify or waive the permitting and technical requirements applicable to other types of hazardous waste management facilities, except that the Part 264, Subpart H, financial responsibility requirements and the public participation requirements of Part 124 may not be modified or waived.
- o An RD&D permit shall provide for the construction of the RD&D activity and for its operation for a period not exceeding 365 operating days. Permits may be renewed up to three times, with each renewal not to exceed 365 operating days.
- o The Agency may terminate an RD&D permit at any time that it is found necessary for protection of human health or the environment.

D. PROJECT DESCRIPTION

[Provide a complete description of the RD&D activities to be allowed under permit including types and volumes of wastes to be handled.]

E. PERMIT ORGANIZATION

The permit is divided into \_\_\_ sections as outlined below.

<u>Section</u>	<u>Topic</u>
Part I	Standard Conditions
Part II	General Operating Conditions
Part III	Conditions for Storage/Treatment In Containers (if applicable)
Part IV	Conditions for Storage/Treatment In Tanks (if applicable)
Part V	Specific Experimental Conditions for Thermal Treatment Processes (if applicable)

[Note: Additional Parts may be added as needed]

Parts I and II contain conditions which generally apply to all hazardous waste facilities although certain conditions, described in the following summary, have been deleted, added or revised to fit the unique RD&D project. Part(s) III, IV, and V pertain specifically to the hazardous waste RD&D activities at the \_\_\_\_\_ [facility name] \_\_\_\_\_ in [city, state].

F. SUMMARY OF THE PERMIT CONDITIONS

This section of the fact sheet provides a summary of the conditions in the draft permit. The column titled "Regulation" provides the regulatory authority for the permit condition specified in the column titled "Permit Condition." For convenience in reviewing the permit application, the column headed "Location in Application" is provided. The permit application cited in this section is the permit application dated \_\_\_\_\_ as amended on [date(s)].

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PART I  
STANDARD CONDITIONS

Part I of the permit sets forth the standard conditions that are applicable to all hazardous waste management facilities. All citations of the regulations refer to the regulations as codified in Title 40 of the Code of Federal Regulations (40 CFR).

<u>Permit Condition</u>	<u>Subject</u>	<u>Regulation (40 CFR)</u>
I.A	Effect of Permit	§270.4 §270.30(g)
I.B	Permit Actions	
I.B.1	Modification, Revocation, and Termination	§270.30(f) §270.41 §270.42 §270.43
I.B.2	Protection of Human Health and the Environment	§270.65
I.C	Severability	§124.16(a)
I.D	Definitions	Part 264 Part 260 Part 270
I.E	Reports, Notifications, and Submissions to the Regional Administrator	
I.F	Signatory Requirements	§270.11 §270.30(k)
I.G	Documents to be Maintained at the Activity Site	§264.13 §264.16(d) §264.53(a) §264.112(a) §264.142(d) §264.73 §264.15(b)
I.H	Duties and Requirements	§270.30
I.H.1	Duty to Comply	§270.30(a)
I.H.2	Duty to Reapply	§270.30(b)

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<u>Permit Condition</u>	<u>Subject</u>	<u>Regulation (40 CFR)</u>
I.H.3	Need to Halt or Reduce Activity Not a Defense	§270.30(c)
I.H.4	Duty to Mitigate	§270.30(d)
I.H.5	Proper Operation and Maintenance	§270.30(e)
I.H.6	Permit Actions	§270.30(f)
I.H.7	Property Rights	§270.30(g)
I.H.8	Duty to Provide Information	§270.30(h) §264.74(a)
I.H.9	Inspection and Entry	§270.30(i)
I.H.10	Monitoring and Records	§270.30(j)
I.H.11	Prospective Changes in Operation	§270.30(1)(1)
I.H.12	Anticipated Noncompliance	§270.30(1)(2)
I.H.13	Certification of Construction or Modification	§270.32(b)
I.H.14	Twenty-Four Hour Reporting	§270.30(1)(6) §264.56(d)(1) and (j)
I.H.15	Other Noncompliance	§270.30(1)(10)
I.H.16	Other Information	§270.30(1)(11) Part 124
I.H.17	Transfer of Permit	§270.30(1)(3)
I.I.	Confidential Information	§270.12
I.J.	Documents to be Submitted Prior to Operation	§270.32(b)

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PART II  
GENERAL OPERATING CONDITIONS

Part II of the permit sets forth general operating conditions with which the Permittee must comply. All citations of the regulations refer to the regulations as codified in Title 40 of the Code of Federal Regulations  
**NOTE:** N.A. - NOT APPLICABLE - this requirement does not apply to the Permittee.

<u>Permit Condition</u>	<u>Subject</u>	<u>Regulation (40 CFR)</u>	<u>Location in Application*</u>
II.A	Design and Operation of the Hazardous Waste RD&D Activity	§264.31	
II.B	Research Plan	§270.65(a)	
II.C	General Inspection Requirements	§264.15	
II.D	Personnel Qualifications	§264.16	
II.E	Preparedness and Prevention		
II.E.1	Required Equipment	§264.32	
II.E.2	Testing and Maintenance of Equipment	§264.33	
II.E.3	Access to Communications or Alarm System	§264.34	
II.E.4	Required Aisle Space	§264.35	
II.E.5	Arrangements with Local Authorities	§264.37	
II.F	Emergency Response Plan	§264.50-56	
II.F.1	Implementation of Plan	§264.51	
II.F.2	Copies of Plan	§264.53	
II.F.3	Amendments to Plan	§264.54	
II.F.4	Emergency Coordinator	§264.55	
II.G	Closure		
II.G.1	Performance Standard	§264.111	
II.G.2	Amendment to Closure Plan	§264.112	

\* Key to Application References:

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<u>Permit Condition</u>	<u>Subject</u>	<u>Regulation (40 CFR)</u>	<u>Location in Application*</u>
II.G.3	Notification of Closure	§264.113	
II.G.4	Time Allowed for Closure	§264.113	
II.G.5	Disposal or Decontamination of Equipment	§264.114	
II.G.6	Certification of Closure	§264.115	
II.H	Cost Estimate for Closure		
II.H.1	Adjustment for Inflation	§264.142(b)	
II.H.2	Adjustment for Changed Conditions	§264.142(c)	
II.H.3	Availability	§264.142(d)	
II.I	Financial Assurance for Closure	§264.143 §264.151	
II.J	Liability Requirements	§264.147	
II.K	Incapacity of Owners/Operators, Guarantors or Financial Institutions	§264.148	
II.L	Manifest System	§264.71 §264.72 §264.76	
II.M	Security	§264.14	
II.N	General Requirements for Ignitable, Reactive, or Incompatible Waste	§264.17	
II.O	Location Standards	§264.18	
II.P	Required Notices	§264.12	
II.P.1	Imports	§264.12(a)	
II.P.2	Notice to Generators	§264.12(b)	
II.Q	General Waste Analysis	§264.13(b) §270.65(b)(2)	

\* Key to Application References:

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PART III  
CONDITIONS FOR STORAGE AND/OR TREATMENT IN CONTAINERS

Part III of the permit sets forth conditions for storage in containers with which the Permittee must comply. All citations of the regulations refer to the regulations as codified in Title 40 of the Code of Federal Regulations (40 CFR).

<u>Permit Condition</u>	<u>Subject</u>	<u>Regulation (40 CFR)</u>	<u>Location in Application*</u>
III.A	Waste Identification	§264.13	
III.B	Condition of Containers	§264.171	
III.C	Compatibility of Wastes With Containers	§264.172	
III.D	Management of Containers	§264.173	
III.E	Containment	§264.175	
III.F	Maximum Waste Storage Capacity	§270.32(b) §264.175	
III.G	Special Requirements for Ignitable or Reactive Waste	§264.176	
III.H	Special Requirements for Incompatible Waste	§264.177	

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PART IV  
CONDITIONS FOR STORAGE AND/OR TREATMENT IN TANKS

Part IV of the permit sets forth conditions for storage in tanks and specific experimental conditions for treatment in tanks with which the Permittee must comply. All citations of the regulations refer to the regulations as codified in Title 40 of the Code of Federal Regulations (40 CFR).

<u>Permit Condition</u>	<u>Subject</u>	<u>Regulation (40 CFR)</u>	<u>Location in Application*</u>
IV.A	Waste Identification	§264.13	
IV.B	Design and Construction of Tanks	§264.191	
IV.C	Protection from Overfilling	§264.192(b)	
IV.D	Operating Conditions	§270.65(a)(3)	
		(Reference applicable sections of Part 264, Subpart J and Part 265, Subparts P and Q, where appropriate.)	
IV.E	Special Requirements for Ignitable or Reactive Wastes	§264.198	
IV.F	Special Requirements for Incompatible Wastes	§264.199	

\* Key to Application References:

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PART V  
CONDITIONS FOR THERMAL TREATMENT PROCESSES

Part V of the permit sets forth conditions for the RD&D experiment with which the Permittee must comply. All citations of the regulations refer to the regulations as codified in Title 40 of the Code of Federal Regulations (40 CFR).

<u>Permit Condition</u>	<u>Subject</u>	<u>Regulation (40 CFR)</u>	<u>Location in Application</u>
V.A	Construction and Maintenance	§270.65(a)(1)	
V.B	Waste Identification	§264.13	
V.C	Maximum Waste to be Treated	§270.65(a)(2)	
V.D	Operating Conditions	§270.65(a)(1)	
		(Reference applicable sections of Part 264, Subpart O and Part 265, Subparts P and Q, where appropriate.)	
V.E	Test Plan and Reporting	§270.65(a)(3)	
V.F	Stack Sampling and Monitoring Plan	§270.65(a)(3)	
		(Reference applicable sections of Part 264, Subpart O.)	

[Note: As appropriate, citations to regulations in Part 264, Subpart O and Part 265, Subparts P and Q should be added.]

Key to Application References:

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G. WAIVERS

[Describe any waivers of permit conditions.]

H. ADDITIONAL CONDITIONS

[Explain any additional or unusual permit conditions, including experimental procedures and operating conditions. Examples follow:]

1. Permit Renewal:

Pursuant to Section 270.65(d) of RCRA, an RD&D permit may be renewed for a maximum of three times, but each renewal must not exceed one year. [However, due to the anticipated short duration of the RD&D activities under this proposed permit (approximately \_\_\_\_\_ weeks), EPA has not included a standard condition providing for renewal. The time provided in the proposed permit, \_\_\_\_\_ [timeframe] from the date of issuance, should be sufficient to complete all RD&D activities and the closure activities provided in this permit.]

2. Transfer of Permit:

Due to the short period of RD&D activities under this proposed permit, the requirements of Sections 270.40 and 270.30(1)(3), which provide procedures for transfer of permits, are not incorporated in the proposed permit.

3. Protection of Human Health and the Environment:

Pursuant to RCRA Section 3005(g)(3) and 40 CFR 270.65(c), EPA may order an immediate termination of all operations at an RD&D facility at any time it determines that termination is necessary to protect human health and the environment. This provision is included at Section I.B.2 of the standard conditions of the proposed permit.

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NOTICE OF PREPARATION OF A DRAFT HAZARDOUS WASTE  
RESEARCH, DEVELOPMENT AND DEMONSTRATION PERMIT  
AND PUBLIC HEARING UNDER  
THE RESOURCE CONSERVATION AND RECOVERY ACT

United States Environmental Protection Agency  
Region \_\_\_\_\_  
[Regional address] \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Notice Date: \_\_\_\_\_

The United States Environmental Protection Agency (EPA) has reviewed a  
Research, Development, and Demonstration (RD&D) permit application from \_\_\_\_\_  
[name and address] \_\_\_\_\_

The review was conducted pursuant to the Resource Conservation and Recovery  
Act of 1976 (RCRA), as amended by the Hazardous and Solid Waste Amendments of  
1984 (HSWA). [name] \_\_\_\_\_ proposes to conduct  
[research, development and/or demonstration] on [name of technology or  
process] to treat hazardous waste. EPA has made a tentative determination to  
issue a permit under the authority of RCRA. The primary purpose of RD&D  
permits is to develop safe treatment alternatives to land disposal. RD&D  
permits must include terms and conditions to protect human health and the  
environment. The RD&D permit is temporary and limits the quantities of  
hazardous waste for treatment.

HSWA imposes additional requirements which will be administered and  
enforced by EPA until [name of State] \_\_\_\_\_ received additional  
authorization for those requirements. Since [name of State] \_\_\_\_\_ is  
currently not authorized to issue RD&D permits, EPA will determine whether to  
issue a permit to [facility name] \_\_\_\_\_.

PROJECT DESCRIPTION

[facility name] \_\_\_\_\_ proposes to conduct a  
research project at [research location] \_\_\_\_\_ located in \_\_\_\_\_  
[city/state] \_\_\_\_\_. The purpose of the research  
is to [provide a brief description of RD&D activities] \_\_\_\_\_.

EPA purposes to issue a permit for this RD&D project. The wastes will be  
obtained from [generator(s) and their locations(s)] \_\_\_\_\_.  
The wastes will be stored in [briefly describe storage facilities] \_\_\_\_\_.  
Experiments will be conducted in [briefly describe building/structures at  
the facility to be used for RD&D]. The maximum amount of hazardous waste to  
be received and treated under this permit will not exceed [quantity/volume] \_\_\_\_\_.

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## TENTATIVE DECISION

EPA proposes to issue the permit with the following requirements:

1. The permit includes "boiler plate" requirements which are in all EPA operating permits per regulation 40 CFR §270.30.
2. The permit will expire \_\_\_\_\_ [term of permit] \_\_\_\_\_ following date of issuance.
3. Experimental procedures to follow in conducting the research are identified in the permit.
4. The permittee is required to submit to EPA a special RD&D report which includes a summary of the experiment (including quantities and types of hazardous waste), date on experimental results, and any operational problems encountered. (Note: This permit condition is optional and may not apply to particular RD&D projects.)

## PUBLIC PARTICIPATION

1. Comments. Persons wishing to comment on EPA's draft permit should submit their comments in writing to:

U.S. Environmental Protection Agency  
Region \_\_\_\_\_

\_\_\_\_\_ [street]  
\_\_\_\_\_ [city, state, zip]

ATTN: \_\_\_\_\_ [name]  
\_\_\_\_\_ [office address]

All persons, including the applicant, who believe any conditions of the draft permit are inappropriate or that EPA's tentative decision to prepare a draft permit is inappropriate, must raise all reasonably ascertainable issues and submit all reasonably available arguments and factual grounds supporting their position, including all supporting materials, by the close of the public comment period. All supporting materials shall be included in full and may not be incorporated by reference, unless they are already part of the administrative record in this permit action or consist of State or Federal statutes and regulations, EPA documents of general applicability, or other generally available reference materials. Commenters shall make supporting material not already included in the administrative record available to EPA. All comments must be received within the 45-day period ending \_\_\_\_\_ [date].

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2. Public hearing. A public hearing to consider the draft permit conditions and permit issuance will be held at the time and place stated below:

[date]  
[time]  
[place]  
[street address]  
[city, state, zip]

Any person may submit oral or written statements or data concerning EPA's draft permit at this time. If presenting an oral statement, a written statement is requested so the EPA can adequately respond to all issues raised.

3. Availability of documents for public review. EPA's administrative record, including all data submitted by the applicant, the fact sheet, the draft permit, maps showing the exact location of the activity, and comments received, may be reviewed and copied at EPA, Region \_\_\_\_\_, [address of Region] \_\_\_\_\_, between the hours of 8:30 a.m. and 4:30 p.m. Monday through Friday. A copying machine will be provided for public use at a charge per page. Any person desiring further information, copies or portions of the administrative record, or an appointment to review the record should contact \_\_\_\_\_ [name] \_\_\_\_\_ at the above address or call (\_\_\_\_) \_\_\_\_\_. [If a confidentiality claim has been asserted, explain that EPA will treat the affected information as confidential until EPA's Office of Regional Counsel makes a final determination regarding the confidentiality claim.]

4. Final determination. Any relevant comments received within forty-five days of the date of this public notice will be considered in the formulation of final determination is regarding EPA's permit. After considerations of all written comments and the requirements and policies in RCRA and HSWA, EPA will make a final decision to either issue, modify or deny the permit. At that time, EPA will notify the applicant and each person who has submitted written comments or requested notice of the final permit decision. The final permit decision will become effective thirty (30) days after the service of notice of the decision unless a later date is specified or review is requested under regulation 40 CFR §124.19. If no comments requested a change in ~~the~~ draft permit, the final permit will become effective immediately upon issuance.



FEB 27 1978

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
RESEARCH, DEVELOPMENT AND DEMONSTRATION  
HAZARDOUS WASTE TREATMENT PERMIT

Permittee: \_\_\_\_\_ Permit  
Number: \_\_\_\_\_  
Location of RD&D Activity: \_\_\_\_\_

This permit is issued by the United States Environmental Protection Agency (EPA) under authority of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976, as amended, 42 USC §6901 et seq. (RCRA) and EPA regulations to \_\_\_\_\_ (hereafter called the Permittee), to operate a hazardous waste research, development and demonstration activity located in \_\_\_\_\_ on \_\_\_\_\_, (at latitude) \_\_\_\_\_ and longitude \_\_\_\_\_). The project will test \_\_\_\_\_ as a waste treatment process to decontaminate \_\_\_\_\_ that are contaminated with \_\_\_\_\_.

The Permittee must comply with all terms and conditions of this permit. This permit consists of the conditions contained herein, including those in the Attachments, and the regulations contained in 40 CFR Parts 260 through 265, 124, and 270 as specified in this permit.

This permit is based on the assumption that the information submitted in the permit application attached to the Permittee's letter dated \_\_\_\_\_ as modified by subsequent amendments dated \_\_\_\_\_, and \_\_\_\_\_ (hereafter referred to as the application) is accurate and that the activity will be constructed and/or operated as specified in the application. Any inaccuracies found in this information may be grounds for the termination or modification of this permit (see 40 CFR §§270.41, 270.43, 270.42, and 270.65(c) and potential enforcement action (42 USC §6925(g)). The Permittee must inform EPA of any deviation from or changes in the information in the application which would affect the Permittee's ability to comply with the applicable regulations or permit conditions.

This permit is effective as of \_\_\_\_\_, and shall remain in effect until \_\_\_\_\_, and shall not exceed \_\_\_\_\_ operating days after commencement of experimental treatment, unless revoked and reissued, or terminated in accordance with 40 CFR §§ 270.41, 270.43 or 270.65.

PART I - STANDARD CONDITIONS

A. EFFECT OF PERMIT

This permit authorizes only the research on hazardous waste treatment expressly described in this permit and does not authorize any other management of hazardous waste. EPA will consider compliance with the terms of this permit to be compliance with the requirements of RCRA Subtitle C and EPA regulations concerning the management of hazardous waste listed or described in this permit. Issuance of this permit does not convey property rights of any sort or any exclusive privilege; nor does it authorize any injury to persons or property, any invasion of other private rights, or any infringement of State or local laws or regulations. Compliance with the terms of this permit does not constitute a defense to any action brought under Section 7003 of RCRA (42 USC §6973), Section 106 (a) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 USC §9606(a) commonly known as CERCLA), or any other law governing protection of public health or the environment.

B. PERMIT ACTIONS

1. Modification, Revocation, and Termination. This permit may be modified, revoked and reissued, or terminated for cause as specified in 40 CFR §§270.41, 270.43, 270.42 and 270.65. The filing of a request for a permit modification, revocation and reissuance, or termination or the notification of planned changes or anticipated noncompliance on the part of the Permittee does not stay the applicability or enforceability of any permit condition.

2. Protection of Human Health and the Environment. The Regional Administrator may order an immediate termination of all operations under this permit at any time he determines that termination is necessary to protect human health at the environment. (See 40 CFR §270.65(c).)

C. SEVERABILITY

The provisions of this permit are severable, and if any provision of this permit or the application of any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this permit shall not be affected thereby.

D. DEFINITIONS

For the purpose of this permit, terms used herein shall have the same meaning as those in Title 40 of the Code of Federal Regulations (40 CFR Parts 260 through 264 and 270), unless this permit specifically states otherwise; where terms are not otherwise defined by a standard dictionary reference or the generally accepted scientific or industrial meaning of the term. "Regional Administrator" is the Regional Administrator of the United States Environmental Protection Agency for the \_\_\_\_\_ Region, (Region \_\_\_\_\_).

E. REPORTS, NOTIFICATIONS AND SUBMISSIONS TO THE REGIONAL ADMINISTRATOR

All reports, notifications or other submissions which are required by this permit to be sent or given to the Regional Administrator should be sent certified mail or given to:

\_\_\_\_\_  
U.S. Environmental Protection Agency  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
( ) - \_\_\_\_\_

F. SIGNATORY REQUIREMENTS

All reports or other information submitted to the Regional Administrator shall be signed and certified as required by 40 CFR §270.11.

G. DOCUMENTS TO BE MAINTAINED AT THE ACTIVITY SITE

The Permittee shall maintain at the activity site, until closure is completed and certified by an independent registered professional engineer, the following documents and amendments, revisions and modifications to these documents:

1. Research plan.
2. Waste analysis plan.
3. Personnel training documents and records.
4. Emergency response plan.
5. Closure plan.
6. Latest adjusted closure cost estimate and date of adjustment.
7. Operating record, including an operating log used for recording purposes.
8. Inspection schedules and logs.
9. Documents required by Parts \_\_\_\_\_, Sections \_\_\_\_\_ of this permit.

#### H. DUTIES AND REQUIREMENTS

1. Duty to Comply. The Permittee shall comply with all conditions of this permit, except to the extent and for the duration such noncompliance is authorized by an emergency permit. Any other permit noncompliance constitutes a violation of RCRA and is grounds for enforcement action, permit termination, revocation and reissuance, modification, or denial of a permit renewal application.
2. Duty to Reapply. If the Permittee wishes to continue an activity allowed by this permit after the expiration date of this permit, the Permittee shall submit a complete application for a new permit at least 180 days before this permit expires.

(Note: The 180-day timeframe for notification may be inappropriate, especially if the permit term is less than one year. The appropriate amount of time for submitting a new application should be determined on a case-by-case basis, although the timeframe generally should not be less than 90 days.)

3. Need to Halt or Reduce Activity Not a Defense. It shall not be a defense for the Permittee in an enforcement action to argue that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.
4. Duty to Mitigate. In the event of noncompliance with this permit, the Permittee shall take all reasonable steps to minimize releases to the environment, and shall carry out such measures as are reasonable to prevent significant adverse impacts on human health or the environment.
5. Proper Operation and Maintenance. The Permittee shall at all times properly operate and maintain all activities and systems of treatment and control (and related appurtenances) which are installed or used by the Permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary systems or similar systems only when necessary to comply with the conditions of the permit.
6. Permit Actions. This permit may be modified, revoked and reissued, or terminated for cause as specified in 40 CFR §§270.41, 270.42, 270.43, and 270.65(c). The filing of a request for a permit modification, revocation and reissuance, or termination, or the notification of planned changes or anticipated noncompliance on the part of the Permittee does not stay the applicability or enforceability of any permit condition.
7. Property Rights. The permit does not convey any property rights of any sort, or any exclusive privilege.

8. Duty to Provide Information. The Permittee shall furnish to the Regional Administrator, within a reasonable time, any relevant information which the Regional Administrator may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The Permittee shall also furnish to the Regional Administrator, upon request, copies or records required to be kept by this permit.

9. Inspection and Entry. The Permittee shall allow the Regional Administrator, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to:

- a. Enter at reasonable times upon the Permittee's premises where a regulated activity is located or conducted, or where records must be kept under the conditions of this permit;
- b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- c. Inspect at reasonable times any activities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
- d. Sample or monitor, at reasonable times for the purposes of assuring permit compliance or as otherwise authorized by RCRA, any substances or parameters at any location.

10. Monitoring and Records.

- a. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity in accordance with the research plan in Attachment \_\_\_\_.
- b. The Permittee shall retain the final project report and records of all data used to complete the application for this permit for a period of at least \_\_\_\_ years from the date of the sample, measurement, report or application. These periods may be extended by request of the Regional Administrator at any time and are automatically extended during the course of any unresolved enforcement action regarding this facility.

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c. Records of monitoring information shall specify:

- (1) The dates, exact place, and times of sampling or measurements;
- (2) The individuals who performed the sampling or measurements;
- (3) The dates analyses were performed;
- (4) The individuals who performed the analyses;
- (5) The analytical techniques or methods used; and
- (6) The results of such analyses.

11. Prospective Changes in Operation. If the Permittee wishes to make any changes in the operation of the RD&D unit, he must notify the Regional Administrator no less than fourteen (14) calendar days before the date he intends to make the change. This notification must be by certified mail. Changes in the operation of the RD&D unit include, but are not limited to, alteration of the treatment technology, use of different pollution control devices, and any changes in the operation of the activity not authorized in this permit that may affect human health or the environment.
12. Anticipated Noncompliance. The Permittee shall give advance notice to the Regional Administrator of any planned changes in the permitted activity which may result in noncompliance with permit requirements.
13. Certification of Construction or Modification. The Permittee may not commence of hazardous waste at the facility until:
  - a. The Permittee (and a registered professional engineer) have notified the Regional Administrator that the activity has been constructed/modified) in compliance with the permit; followed by a letter signed by the Permittee (and a registered professional engineer) stating that the activity has been (constructed/modified) in compliance with the permit; and
  - b. (i) The Regional Administrator has either inspected the modified or newly constructed activity and finds it is in compliance with the conditions of the permit; or
  - b. (ii) The Regional Administrator has either waived the inspection or has not within 72 hours notified the Permittee of his or her intent to inspect.
14. Twenty-Four Hour Reporting. The Permittee shall report to the Regional Administrator any noncompliance which may endanger human health or the environment. Information shall be provided orally with twenty-four (24) hours from the time the Permittee becomes aware of the circumstances. This report shall include the following:

- a. Information concerning release of any hazardous waste that may cause an endangerment to public drinking water supplies.
- b. Any information of a release or discharge of hazardous waste, or of a fire or explosion from the hazardous waste research, development and demonstration activity, which could threaten the environment or human health outside the activity. The description of the occurrence and its cause shall include:

- (1) Name, address, and telephone number of the owner or operator;
- (2) Name, address, and telephone number of the activity site;
- (3) Date, time, and type of incident;
- (4) Name and quantity of material(s) involved;
- (5) The extent of injuries, if any;
- (6) An assessment of actual or potential hazard to the environment and human health outside the activity, where this is applicable; and
- (7) Estimated quantity and disposition of recovered material that resulted from the incident.

A written submission shall also be provided to the Regional Administrator within five (5) days of the time the Permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the periods of noncompliance (including exact dates and times) if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. The Permittee need not comply with the 5-day written notice requirement if the Regional Administrator waives that requirement and the Permittee submits a written report within fifteen (15) days of the time the Permittee becomes aware of the circumstances.

15. Other Noncompliance. The Permittee shall report all other instances of noncompliance not otherwise required to be reported above, at the time monitoring reports are submitted. The reports shall contain the information listed in permit condition 14.
16. Other information. Whenever the Permittee becomes aware that he or she failed to submit any relevant facts in the permit application, or submitted incorrect information in a permit application or in any report to the Regional Administrator, the Permittee shall promptly submit such facts or information to the Regional Administrator.
17. Transfer of Permit. This permit may not be transferred to a new owner and operator unless it is modified or revoked and reissued pursuant to 40 CFR §270.41(b)(2) or 270.42(d).

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I. CONFIDENTIAL INFORMATION

Any information required to be submitted by this permit may be claimed as confidential in accordance with 40 CFR §§270.12 (Confidentiality of Information) and 2.203(b) (Public Information, Subpart B-Conditional Business Information).

J. DOCUMENTS TO BE SUBMITTED PRIOR TO OPERATION

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PART II - GENERAL OPERATING CONDITIONS

A. DESIGN AND OPERATION OF HAZARDOUS WASTE RD&D ACTIVITY

The Permittee shall maintain and operate the activity to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste constituents to air, soil, or surface water which could threaten human health or the environment. (See 40 CFR \$264.31.)

B. RESEARCH PLAN

The Permittee shall follow the procedures described in the attached research plan, Attachment \_\_\_\_\_.

C. GENERAL INSPECTION REQUIREMENTS

The Permittee shall follow the inspection plan set out in the inspection schedule, Attachment \_\_\_\_\_. The Permittee shall remedy any deterioration or malfunction discovered by an inspection as required by 40 CFR \$264.15(c). Records of inspections shall be kept as required by 40 CFR \$264.15(d).

D. PERSONNEL QUALIFICATIONS

The Permittee shall ensure that personnel are qualified to manage hazardous waste as provided in Attachment \_\_\_\_\_. This training program shall follow the attached outline, Attachment \_\_\_\_\_. All personnel involved with activities under this permit shall receive this training prior to initiation of activities under this program as described in the attached outline, Attachment \_\_\_\_\_. The Permittee shall maintain training documents and records as required by 40 CFR \$264.16(d) and (e).

E. PREPAREDNESS AND PREVENTION

1. Required Equipment. At a minimum, the Permittee shall provide the activity with the equipment set forth in the emergency response plan. Attachment \_\_\_\_\_.
2. Testing and Maintenance of Equipment. The Permittee shall test and maintain the equipment specified in the previous permit condition and in Attachment \_\_\_\_\_ as necessary to assure its proper operation in time of emergency.
3. Access to Communications or Alarm System. The Permittee shall maintain access to the communications or alarm system as required by 40 CFR \$264.34 and as specific in Attachment \_\_\_\_\_.

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4. Required Aisle Space. At a minimum, the Permittee shall maintain aisle space as required by 40 CFR \$264.35 and as specified in Attachment \_\_\_\_.
5. Arrangements With Local Authorities. The Permittee shall maintain arrangements with State and local authorities as required by 40 CFR \$264.37. If State or local officials refuse to enter into or renew existing preparedness and prevention arrangements with the Permittee, the Permittee must document this refusal in the operating record.

F. EMERGENCY RESPONSE PLAN

1. Implementation of Plan. The Permittee shall immediately carry out the provisions of the emergency response plan, Attachment \_\_\_\_, and follow the emergency procedures described by 40 CFR \$264.56 whenever there is an imminent or actual fire, explosion, or release of hazardous waste or constituents which threatens or could threaten human health or the environment.
2. Copies of Plan. The Permittee shall comply with the requirements of 40 CFR \$264.53.
3. Amendments to Plan. The Permittee shall review and immediately amend, if necessary, the emergency response plan, as required by 40 CFR \$264.54.
4. Emergency Coordinator. The Permittee shall comply with the requirements of 40 CFR \$264.55.

G. CLOSURE

1. Performance Standard. The Permittee shall close the activity as required by 40 CFR \$264.111 and in accordance with the closure plan, Attachment \_\_\_\_.
2. Amendment to Closure Plan. The Permittee shall amend the closure plan in accordance with 40 CFR \$264.112(b) whenever necessary.
3. Notification of Closure. The Permittee shall notify the Regional Administrator by certified mail at least \_\_\_\_ days prior to the date he expects to begin closure.

4. Time Allowed for Closure. After receiving the final volume of hazardous waste, the Permittee shall treat or remove from site all hazardous waste and shall complete closure activities in accordance with the schedules specified in the closure plan, Attachment \_\_\_\_.
5. Disposal or Decontamination of Equipment. The Permittee shall decontaminate and/or dispose of all equipment used in the RD&D activity as required by 40 CFR \$264.114 and the closure plan, Attachment \_\_\_\_.
6. Disposal of Hazardous Waste. All hazardous waste on-site at the commencement of closure shall be removed from the site by transporting it to a permitted or interim status treatment, storage, or disposal facility or rendered non-hazardous. The waste shall not be returned to the source of the waste unless the source is permitted or has interim status to manage the waste.
7. Certification of Closure. The Permittee shall certify that the activity has been closed in accordance with the specifications in the closure plan, Attachment \_\_\_\_, as required by 40 CFR \$264.115.

#### H. COST ESTIMATE FOR CLOSURE

1. Adjustment for Inflation. The Permittee must adjust the closure cost estimate for inflation as required by 40 CFR \$264.142(b).
2. Adjustment for Changed Conditions. The Permittee must revise the closure cost estimate whenever there is a change in the activity closure plan as required by 40 CFR \$264.142(c).
3. Availability. The Permittee must keep at the activity site the latest closure cost estimate as required by 40 CFR \$264.142(d).

#### I. FINANCIAL ASSURANCE FOR CLOSURE

The Permittee has demonstrated compliance with 40 CFR \$264.143 by providing documentation of financial assurance, as required by 40 CFR \$264.151, in at least the amount of the cost estimates required by permit condition II.H. The Permittee has demonstrated compliance with this permit condition by submitting the required documentation to the Regional Administrator at least 60 days before initial receipt of wastes. The Permittee's financial assurance has been effective prior to operation of the activity. Any changes in financial assurance mechanisms must be approved by the Regional Administrator, pursuant to 40 CFR \$264.143 or \$264.149.

#### J. LIABILITY REQUIREMENTS

The Permittee shall comply with the requirement of CFR \$264.147 and the documentation requirements of 40 CFR \$264.151, including the requirements to have and maintain liability coverage for sudden accidental occurrences in the amount of at least \$1 million per occurrence with an

aggregate of at least \$2 million, exclusive of legal defense costs. The Permittee has submitted the required documentation to the Regional Administrator at least 60 days before the initial receipt of waste. The Permittee's liability coverage will be effective before the Permittee operates the activity.

K. INCAPACITY OF OWNER/OPERATORS, GUARANTORS, OR FINANCIAL INSTITUTIONS

The Permittee shall comply with 40 CFR \$264.148 whenever necessary.

L. MANIFEST SYSTEM

The Permittee shall comply with the manifest requirements of 40 CFR §§264.71, 264.72, and 264.76.

M. SECURITY

The Permittee shall comply with the security provisions of 40 CFR \$264.14(b) and (c).

N. GENERAL REQUIREMENTS FOR IGNITABLE, REACTIVE, OR INCOMPATIBLE WASTE

The Permittee shall comply with the requirements of 40 CFR \$264.17(a).

O. LOCATION STANDARDS

P. REQUIRED NOTICES

1. Imports. The Permittee shall notify the Regional Administrator in writing at least four weeks in advance of the date the Permittee expects to receive hazardous waste from a foreign source. Notice of subsequent shipments of the same waste from the same foreign source in the same calendar year is not required.
2. Notice of Generators. When the Permittee is to receive hazardous waste from an off-site source (except where the Permittee is also the generator), he must inform the generator in writing that he has the appropriate permits for, and will accept the waste the generator is shipping. The Permittee must keep a copy of this written notice as part of the operating record.

Q. GENERAL WASTE ANALYSIS

The Permittee shall follow the procedures described in the attached Waste Analysis Plan, Attachment \_\_\_\_.

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PART III - CONDITIONS FOR STORAGE/TREATMENT IN CONTAINERS

A. WASTE IDENTIFICATION

The Permittee may store and/or treat the following wastes in containers, subject to the terms of this permit.

EPA Hazardous  
Waste Code

Description

B. CONDITION OF CONTAINERS

If a container holding hazardous waste is not in "good condition" (e.g., severe rusting, apparent structural defects) or if it begins to leak, the Permittee shall transfer the hazardous waste from such container to a container that is in good condition or otherwise manage the waste in compliance with the conditions of this permit. (See 40 CFR §264.171.)

C. COMPATIBILITY OF WASTES WITH CONTAINERS

The Permittee shall assure that the ability of the container to contain the waste is not impaired, as required by 40 CFR §264.172.

D. MANAGEMENT OF CONTAINERS

The Permittee shall manage containers as required by 40 CFR §264.173.

E. CONTAINMENT

The Permittee shall construct and/or maintain the containment system as required by 40 CFR §264.175 and the attached plans and specifications. Attachment \_\_\_\_\_. The containers shall be elevated to assure that they are protected from contact with accumulated liquids resulting from leaks, spills, or precipitation.

F. MAXIMUM WASTE STORAGE CAPACITY

The maximum amount of container storage and/or treatment shall be containers, with each container having a capacity of \_\_\_\_\_.

G. SPECIAL REQUIREMENTS FOR IGNITABLE OR REACTIVE WASTE

The Permittee shall not locate containers holding ignitable or reactive waste within 15 meters (50 feet) of the activity's property line.

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H. SPECIAL REQUIREMENTS FOR INCOMPATIBLE WASTE

1. The Permittee shall not place incompatible wastes or incompatible wastes and materials in the same container unless the procedures specified in Attachment \_\_\_\_ are followed, as required by 40 CFR §§264.17(b) and 264.177(a).
2. The Permittee shall not place hazardous waste in an unwashed container that previously held an incompatible waste or material.
3. The Permittee shall separate containers of incompatible wastes as indicated in the attached plans, Attachment \_\_\_\_, as required by 40 CFR §264.177(c).
4. The Permittee must document compliance with condition III.H(1) and (2) as required by 40 CFR §264.17(c) and place this documentation in the operating record.

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PART IV - CONDITIONS FOR STORAGE/TREATMENT IN TANKS

A. WASTE IDENTIFICATION

The Permittee may (store and treat) the following hazardous wastes in tanks, subject to the terms of this permit:

- a. Tanks EPA Hazardous Waste No.  
(Tank number and description)

B. DESIGN AND CONSTRUCTION OF TANKS

The Permittee shall construct, modify, maintain all tanks in accordance with the requirements of 40 CFR §264.191 and the plans and specifications in Attachment \_\_\_\_.

C. PROTECTION FROM OVERFILLING

The Permittee shall prevent overfilling of tanks by the methods specified in Attachment \_\_\_\_ and summarized below.

<u>Tanks</u>	<u>Type of Control</u>
<u>Process Parameter</u>	<u>Operating Range</u>
Tank internal pressure	
Tank temperature	
Oxygen feed rate	
Batch size	
Agitator speed	

E. SPECIAL REQUIREMENTS FOR IGNITABLE OR REACTIVE WASTES

1. The Permittee shall not place ignitable or reactive waste in a tank unless the procedures described in Attachment \_\_\_\_ are followed, as required by 40 CFR §264.198(a).
2. The Permittee shall document compliance with IV.D1 as required by 40 CFR §264.17(c) and place this documentation in the operating record.

3. The Permittee shall maintain buffer zones around covered tanks as specified in Attachment \_\_\_\_\_, as required by 40 CFR §264.198(b).

F. SPECIAL REQUIREMENTS FOR INCOMPATIBLE WASTES

1. The Permittee shall not place incompatible wastes in the same tank or place hazardous waste in a tank that previously held an incompatible waste or material unless the procedures specified in Attachment \_\_\_\_\_ are followed, as required by 40 CFR §264.17(b) and §264.199.
2. The Permittee shall document compliance with condition IV.E.1 as required by 40 CFR §264.17(c) and place this documentation in the operating record.

A. CONSTRUCTION AND MAINTENANCE

The Permittee shall (construct and) maintain the unit and the testing activity in accordance with the design plans and specifications in Attachment \_\_\_\_\_.

B. WASTE IDENTIFICATION

The Permittee may treat with the following hazardous wastes, subject to the terms of this permit:

OPTION 1:

- o The physical form of the waste shall be \_\_\_\_\_.
- o The facility shall detonate only those waste explosive classified as DOT Class \_\_\_\_\_.

OPTION 2:

- o No more than \_\_\_\_\_ kg of waste explosives can be denotaed as a single charge.
- o The Permittee may treat any RCRA waste listed in 40 CFR §§261.31-261.33 as of the effective date of this permit, subject to the conditions of this permit, except for the following:

OPTION 3:

<u>EPA Hazardous Waste</u> <u>Number</u>	<u>Description</u>	<u>Amount</u>
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C. MAXIMUM WASTE TO BE TREATED

The Permittee shall not treat mor than during the term of this permit.

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D. OPERATING CONDITIONS

The Permittee shall operate the unit only under the following conditions and as specified in Attachment \_\_\_\_ of this permit:

1. The combustion temperature shall be between \_\_\_\_ and \_\_\_\_.
2. The residence time shall be between \_\_\_\_ and \_\_\_\_.
3. The turbulence rate shall be between \_\_\_\_ and \_\_\_\_.
4. The combustion gas velocity shall be between \_\_\_\_ and \_\_\_\_.
5. The maximum waste feed rate shall be \_\_\_\_ and \_\_\_\_.
6. The afterburner temperature shall be between \_\_\_\_ and \_\_\_\_.
7. The stack gas concentration of carbon monoxide shall be less than \_\_\_\_ ppm.
8. The scrubber liquid shall be maintained at a pH between \_\_\_\_ and \_\_\_\_.
9. The circulating bed velocity shall be maintained between \_\_\_\_ and \_\_\_\_.
10. The Permittee shall control fugitive emissions from the unit by \_\_\_\_\_ and as specified in Attachment \_\_\_\_.
11. During start-up and shut-down of the unit, hazardous wastes may not be introduced into the unit unless the unit is operating within the conditions specified in permit condition V.D.
12. The Permittee must cease \_\_\_\_\_ when the operating conditions exceed limits designated in this permit.
13. The Permittee shall monitor and analyze the parameters specified in the test plan, Attachment \_\_\_\_, according to the methods and frequency specified in Attachment \_\_\_\_\_. The Permittee shall implement the QA/QC program specified in Attachment \_\_\_\_\_.

E. TEST PLAN AND REPORTING

1. Test Plan. The Permittee shall operate and monitor the unit during the term of the permit and as specified in Attachment \_\_\_\_.
2. Hazardous Waste. The hazardous waste for which new information is being gathered under the test demonstration is:

EPA ID No.

Description

3. POHCs. The principal organic hazardous constituents (POHCs) are \_\_\_\_\_.
4. Test Data Submissions. The Permittee shall submit a report to the Regional Administrator upon completion of the tests, but not later than \_\_\_\_\_ following the term of the permit. This report will summarize the test results and discuss the feasibility or infeasibility of the experimental activities based on the operating conditions specified in this permit. QA/QC results shall be submitted with this report. All submissions must be certified in accordance with 40 CFR §270.11. The Permittee shall make any raw data available to EPA upon written request.
5. The Permittee shall report the information specified in Attachment \_\_\_\_\_ to the Regional Administrator according to the schedule in Attachment \_\_\_\_\_.

F. STACK SAMPLING AND MONITORING PLAN

The Permittee shall monitor the following parameters in the stack:

1. oxygen, continuous
2. carbon monoxide, continuous
3. carbon dioxide
4. nitrogen oxides
5. hydrochloric acid
6. total chlorinated organic content
7. total particulates
8. sulfur oxides

\_\_\_\_\_  
Date Signed

\_\_\_\_\_  
Regional permit authority

LIST OF ATTACHMENTS

1. Research Plan
2. Waste Analysis Plan
3. Inspection Schedule
4. Personnel Training
5. Emergency Response Plan
6. Closure Plan
7. Plans and Specifications - Container Storage
8. Incompatible Waste Procedures - Container Storage
9. Plans and Specifications - Tanks
10. Tank Overfilling Control Procedures
11. Ignitable/Reactive Waste Procedures - Tanks
12. Incompatible Waste Procedures - Tanks
13. Plans and Specifications
14. Emissions Control Procedures

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FOR DRAFT RESEARCH, DEVELOPMENT AND DEMONSTRATION PERMIT

This fact sheet has been developed for the draft Resource Conservation and Recovery Act (RCRA) permit for research, development and demonstration (RD&D) of a hazardous waste treatment (process or technology) which EPA intends to issue to \_\_\_\_\_ (Permittee).

This fact sheet was prepared in accordance with the requirements of 40 CFR §124.8

### A. PURPOSE OF THE PERMITTING PROCESS

The purpose of the permitting process is to afford the Environmental Protection Agency (EPA), interested citizens and other governmental agencies the opportunity to evaluate the ability of the Permittee to comply with the applicable hazardous waste management requirements promulgated under the Solid Waste Disposal Act (commonly referred to as the Resource Conservation and Recovery Act or "RCRA"). EPA is required to prepare a draft permit which sets forth in one concise document all the applicable requirements with which the Agency intends to require the Permittee to comply during the one-year duration of the permit. The public is given forty-five days to review the application and comment on the draft permit conditions prior to EPA taking any final action on the application for a hazardous waste RD&D permit.

## B. PROCEDURES FOR REACHING A FINAL DECISION

Section 7004(b) of RCRA and 40 CFR §124.10 require that the public be given forty-five (45) days to comment on each draft permit prepared under the Resource Conservation and Recovery Act. The comment period will begin on \_\_\_\_\_ and will end on \_\_\_\_\_.

Any person interested in commenting on the application or draft period

All persons wishing to comment on any of the permit conditions or the permit application should submit the comments in writing to the Environmental Protection Agency (EPA, Region \_\_\_\_\_, \_\_\_\_\_,  
\_\_\_\_\_, Attention: \_\_\_\_\_).

Comments should include all reasonably available reference, factual grounds and supporting material.

EPA has scheduled a public hearing on the draft permit for \_\_\_\_\_  
at the following location:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Any written comments should be addressed to \_\_\_\_\_,  
\_\_\_\_\_, \_\_\_\_\_,  
\_\_\_\_\_.

When making a determination regarding the issuance of a hazardous waste permit to \_\_\_\_\_, EPA will consider all written comments received during the comment period, any oral or written statements received during the public hearing, the requirements of the hazardous waste regulations of 40 CFR Parts 124, 260-265, and 270 and the Agency's permitting policies.

When EPA makes a final permit decision to either issue, deny or modify the permit, notice will be given to the applicant and each person who has submitted written comments or requested notice of the final decision. If no comments requested a change in the draft permit, the final permit shall become effective immediately upon issuance.

Contact person for the \_\_\_\_\_ draft permit is:

U.S. Environmental Protection Agency  
Region \_\_\_\_\_

( ) - \_\_\_\_\_

#### C. AUTHORITY FOR ISSUING RD&D PERMITS

On November 8, 1984, the President signed into law the Hazardous and Solid Waste Amendments of 1984 (HSWA), which amended the Resource Conservation and Recovery Act (RCRA). RCRA, as amended by HSWA, under Section 3005(g), and as codified in 40 CFR Section 270.65 on July 15, 1985, allows the Agency to permit research, development, and demonstration activities utilizing a technology or process for which permit standards have not been promulgated under 40 CFR Parts 264 or 266.

The new Section 270.65 provides that:

- o EPA may issue RD&D permits for technologies that treat hazardous waste in an innovative and experimental manner.
- o An RD&D permit may provide for the receipt and treatment of only those types and quantities of hazardous waste that are necessary to determine the efficacy and performance capabilities of the technology or process and its effects on human health and the environment.
- o RD&D permits shall include any conditions that the Agency believes are necessary to protect human health and the environment.

- o The Agency may modify or waive the permitting and technical requirements applicable to other types of hazardous waste management facilities, except that the Part 264, Subpart H, financial responsibility requirements and the public participation requirements of Part 124 may not be modified or waived.
- o An RD&D permit shall provide for the construction of the RD&D activity and for its operation for a period not exceeding 365 operating days. Permits may be renewed up to three times, with each renewal not to exceed 365 operating days.

D. PROJECT DESCRIPTION

E. PERMIT ORGANIZATION

The permit is divided into \_\_\_\_ sections as outlined below.

<u>Section</u>	<u>Topic</u>
Part I	Standard Conditions
Part II	General Operating Conditions
Part III	Conditions for Storage/Treatment In Containers
Part IV	Conditions for Storage/Treatment In Tanks
Part V	Specific Experimental Conditions for Thermal Treatment Processes

Parts I and II contain condition which generally apply to all hazardous waste facilities although certain conditions, described in the following summary, have been deleted, added or revised to fit the unique RD&D project. Part(s) III, IV, and V pertain specifically to the hazardous waste RD&D activities at the \_\_\_\_\_ in \_\_\_\_\_.

F. SUMMARY OF THE PERMIT CONDITIONS

This section of the fact sheet provides a summary of the conditions in the draft permit. The column titled "Regulation" provides the regulatory authority for the permit condition specified in the column titled "Permit Condition." For convenience in reviewing the permit application, the column headed "Location in Application" is provided. The permit application cited in this section is the permit application dated \_\_\_\_\_, as amended on \_\_\_\_\_.

PART I  
STANDARD CONDITIONS

Part I of the permit sets forth the standard conditions that are applicable to all hazardous waste management facilities. All citations of the regulations refer to the regulations as codified in Title 40 of the Code of Federal Regulations (40 CFR).

<u>Permit Condition</u>	<u>Subject</u>	<u>Regulation (40 CFR)</u>
I.A	Effect of Permit	\$270.4 \$270.30(g)
I.B	Permit	
I.B.1	Modification, Revocation, and Termination	\$270.30(f) \$270.41 \$270.42 \$270.43
I.B.2	Protection of Human Health and the Environment	\$270.65
I.C	Severability	\$124.16(a)
I.D	Definitions	Part 264 Part 260 Part 270
I.E	Reports, Notifications, and Submissions to the Regional Administrator	
I.F	Signatory Requirements	\$270.11 \$270.30(k)
I.G	Documents to be Maintained at the Activity Site	\$264.13 \$264.16(d) \$264.53(a) \$264.112(a) \$264.142(d) \$264.73 \$264.15(b)
I.H	Duties and Requirements	\$270.30
I.H.1	Duty to Comply	\$270.30(a)
I.H.2	Duty to Reapply	\$270.30(b)

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<u>Permit Condition</u>	<u>Subject</u>	<u>Regulation (40 CFR)</u>
I.H.3	Need to Halt or Reduce Activity Not a Defense	\$270.30(c) <del>1</del>
I.H.4	Duty to Mitigate	\$270.30(d)
I.H.5	Proper Operation and Maintenance	\$270.30(e)
I.H.6	Permit Actions	\$270.30(f)
I.H.7	Property Rights	\$270.30(g)
I.H.8	Duty to Provide Information	\$270.30(h) \$264.74(a)
I.H.9	Inspection and Entry	\$270.30(i)
I.H.10	Monitoring and Records	\$270.30(j)
I.H.11	Prospective Changes in Operation	\$270.30(1)(1)
I.H.12	Anticipated Noncompliance	\$270.30(1)(2)
I.H.13	Certification of Construction or Modification	\$270.32(b)
I.H.14	Twenty-Four Hour Reporting	\$270.30(1)(6) \$264.56(d)(1) and (j)
I.H.15	Other Noncompliance	\$270.30(1)(10)
I.H.16	Other Information	\$270.30(1)(11) Part 124
I.H.17	Transfer of Permit	\$270.30(1)(3)
I.I.	Confidential Information	\$270.12
I.J.	Documents to be Submitted Prior to Operation	\$270.32(b) <del>1</del>

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PART II  
GENERAL OPERATING CONDITIONS

Part II of the permit sets forth general operating conditions with which the Permittee must comply. All citations of the regulations refer to the regulations as codified in Title 40 of the Federal Regulations. NOTE: N.A. - NOT APPLICABLE - this requirement does not apply to the Permittee.

<u>Permit Condition</u>	<u>Subject</u>	<u>Regulation (40 CFR)</u>	<u>Location in Application*</u>
II.A	Design and Operation of the Hazardous Waste RD&D Activity	\$264.31	
II.B	Research Plan	\$270.65(a)	
II.C	General Inspection Requirements	\$264.15	
II.D	Personnel Qualifications	\$264.16	
II.E	Preparedness and Prevention		
II.E.1	Required Equipment	\$264.32	
II.E.2	Testing and Maintenance of Equipment	\$264.33	
II.E.3	Access to Communications or Alarm System	\$264.34	
II.E.4	Required Aisle Space	\$264.35	
II.E.5	Arrangements with Local Authorities	\$264.37	
II.F	Emergency Response Plan	\$264.50-56	
II.F.1	Implementation of Plan	\$264.51	
II.F.2	Copies of Plan	\$264.53	
II.F.3	Amendments to Plan	<del>---</del> \$264.54	
II.F.4	Emergency Coordinator	\$264.55	
II.G	Closure		
II.G.1	Performance Standard	\$264.111	
II.G.2	Amendment to Closure Plan	\$264.112	

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<u>Permit Condition</u>	<u>Subject</u>	<u>Regulation (40 CFR)</u>	<u>Location in Application*</u>
II.G.3	Notification of Closure	\$264.113	
II.G.4	Time Allowed for Closure	\$264.113	
II.G.5	Disposal or Decontamination of Equipment	\$264.114	
II.G.6	Certification of Closure	\$264.115	
II.H	Cost Estimate for Closure		
II.H.1	Adjustment for Inflation	\$264.142(b)	
II.H.2	Adjustment for Changed Conditions	\$264.142(c)	
II.H.3	Availability	\$264.142(d)	
II.I	Financial Assurance for Closure	\$264.143 \$264.151	
II.J	Liability Requirements	\$264.147	
II.K	Incapacity of Owners/Operators, Guarantors or Financial Institutions	\$264.148	
II.L	Manifest System	\$264.71 \$264.72 \$264.76	
II.M	Security	\$264.14	
II.N	General Requirements for Ignitable, Reactive or Incompatible Waste	\$264.17	
II.O	Location Standards	\$264.18	
II.P	Required Notices	\$264.12	
II.P.1	Imports	\$264.12(a)	
II.P.2	Notice to Generators	\$264.12(b)	
II.Q.	General Waste Analysis	\$264.13(b) \$270.65(b)(2)	

\* Key to Application References:

PART III  
CONDITIONS FOR STORAGE AND/OR TREATMENT IN CONTAINERS

Part III of the permit sets forth conditions for storage in containers with which the Permittee must comply. All citations of the regulations refer to the regulations as codified in Title 40 of the Code of Federal Regulations (40 CFR).

<u>Permit Condition</u>	<u>Subject</u>	<u>Regulation (40 CFR)</u>	<u>Location in Application*</u>
III.A	Waste Identification	\$264.13	
III.B	Condition of Containers	\$264.171	
III.C	Compatibility of Wastes With Containers	\$264.172	
III.D	Management of Containers	\$264.173	
III.E	Containment	\$264.175	
III.F	Maximum Waste Storage Capacity	\$270.32(b) \$264.175	
III.G	Special Requirements for Ignitable or Reactive Waste	\$264.176	
III.H	Special Requirements for Incompatible Waste	\$264.177	

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PART IV  
CONDITIONS FOR STORAGE AND/OR TREATMENT IN TANKS

Part IV of the permit sets forth conditions for storage in tanks and specific experimental conditions for treatment in tanks with which the Permittee must comply. All citations of the regulations refer to the regulations as codified in Title 40 of the Federal Regulations (40 CFR).

<u>Permit Condition</u>	<u>Subject</u>	<u>Regulation (40 CFR)</u>	<u>Location in Application*</u>
IV.A	Waste Identification	\$264.13	
IV.B	Design and Construction of Tanks	\$264.191	
IV.C	Protection from Overfilling	\$264.192(b)	
IV.D	Operating Conditions	\$270.65(a)(3)	
		(Reference applicable sections of Part 264, Subpart J and Part 265, Subparts P and Q where appropriate).	
IV.E	Special Requirements for Ignitable or Reactive Wastes	\$264.198	
IV.F	Special Requirements for Incompatible Wastes	\$264.199	

\* Key to Application References:

PART V  
CONDITIONS FOR THERMAL TREATMENT PROCESSES

Part V of the permit sets forth conditions for the RD&D experiment with which the Permittee must comply. All citations of the regulations refer to the regulations as codified in Title 40 of the Code of Federal Regulations (40 CFR).

<u>Permit Condition</u>	<u>Subject</u>	<u>Regulation (40 CFR)</u>	<u>Location in Application*</u>
V.A	Construction and Maintenance	\$270.65(a)(1)	
V.B	Waste Identification	\$265.13	
V.C	Maximum Waste to be Treated	\$270.65(a)(2)	
V.D	Operating Conditions	\$270.65.(a)(1)	(Reference applicable sections of Part 264, Subpart O and Part 265, Subparts P and Q, where appropriate).
V.E	Test Plan and Reporting	\$270.65(a)(3)	
V.F	Stack Sampling and Monitoring Plan	\$270.65(a)(3)	(Reference applicable sections of Part 264, Subpart O.)

G. WAIVERS

H. ADDITIONAL CONDITIONS

(Explain any additional or unusual permit conditions, including experimental procedures and operating conditions. Examples Follow:)

1. Permit Renewal:

Pursuant to Section 270.65(d) of RCRA, an RD&D permit may be renewed for maximum of three times, but each renewal must not exceed one year. However, due to the anticipated short duration

\* Key to Application References:

of the RD&D activities under this proposed permit approximately \_\_\_\_\_ weeks), EPA has not included a standard condition providing for renewal. The time provided in the proposed permit, \_\_\_\_\_ from the date of issuance, should be sufficient to complete all RD&D activities and the closure activities provided in this permit.)

2. Transfer of Permit:

Due to the short period of RD&D activities under this proposed permit, the requirements of Sections 270.40 and 270.30(1)(3), which provide procedures for transfer of permits, are not incorporated in the proposed permit.

3. Protection of Human Health and the Environment:

Pursuant to RCRA Section 3005(g)(3) and 40 CFR 270.65(c), EPA may order an immediate termination of all operations at an RD&D facility at any time it determines that termination is necessary to protect human health and the environment. This provision is included at Section I.B.2 of the standard conditions of the proposed permit.

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NOTICE OF PREPARATION OF A DRAFT HAZARDOUS WASTE  
RESEARCH, DEVELOPMENT AND DEMONSTRATION PERMIT  
AND PUBLIC HEARING UNDER  
THE RESOURCE CONSERVATION AND RECOVERY ACT

United States Environmental Protection Agency  
Region \_\_\_\_\_

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Notice Date: \_\_\_\_\_

The United States Environmental Protection Agency (EPA) has reviewed a Research, Development, and Demonstration (RD&D) permit application from \_\_\_\_\_.

The review was conducted pursuant to the Resource Conversation and Recovery Act of 1976 (RCRA), as amended by the Hazardous and Solid Waste Amendments of 1984 (HSWA). \_\_\_\_\_ proposes to conduct (research, development and/or demonstration) on) \_\_\_\_\_ to treat hazardous waste. EPA has made a tentative determination to issue a permit under the authority of RCRA. The primary purpose of RD&D permits is to develop safe treatment alternatives to land disposal. RD&D permits include terms and conditions to protect human health and the environment. The RD&D permit is temporary and limits the quantities of hazardous waste for treatment.

HSWA imposes additional requirements which will be administered and enforced by EPA until \_\_\_\_\_ received additional authorization for those requirements. Since \_\_\_\_\_ is currently not authorized to issue RD&D permits, EPA will determine whether to issue a permit to \_\_\_\_\_.

PROJECT DESCRIPTION

\_\_\_\_\_ proposes to conduct a research project \_\_\_\_\_ located in \_\_\_\_\_  
\_\_\_\_\_. The purpose of the research is to \_\_\_\_\_.

EPA purposes to issue a permit for this RD&D project. The wastes will be obtained from \_\_\_\_\_.  
The wastes will be stored in \_\_\_\_\_.  
Experiments will be conducted in \_\_\_\_\_.

The maximum amount of hazardous waste to be received and treated under this permit will not exceed \_\_\_\_\_.

#### TENTATIVE DECISION

EPA proposes to issue the permit with the following requirements:

1. The permit includes "boiler plate" requirements which are in all EPA operating permits per regulation 40 CFR \$270.30.
2. The permit will expire \_\_\_\_\_ following date of issuance.
3. Experimental procedures to follow in conducting the research are identified in the permit.
4. The permittee is required to submit to EPA a special RD&D report which includes a summary of the experiment (including quantities and types of hazardous waste), date on experimental results, and any operational problems encountered.

#### PUBLIC PARTICIPATION

1. Comments. Persons wishing to comment on EPA's draft permit should submit their comments in writing to:

U.S. Environmental Protection Agency  
Region \_\_\_\_\_

ATTN: \_\_\_\_\_

All persons, including the applicant, who believe any conditions of the draft permit are inappropriate or that EPA's tentative decision to prepare a draft permit is inappropriate, must raise all reasonably ascertainable issues and submit all reasonably available arguments and factual grounds supporting their position, including all supporting materials, by the close of the public comment period. All supporting materials shall be included in full and may not be incorporated by reference, unless they are already part of the administrative record in this permit action or consist of State or Federal statutes and regulations, EPA documents or general applicability, or other generally available reference materials. Commenters shall make supporting material not already included in the administrative record available to EPA. All comments must be received within the 45-day period ending \_\_\_\_\_.



2. Public hearing. A public hearing to consider the draft permit conditions and permit issuance will be held at the time and place stated below:

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Any person may submit oral or written statements or data concerning EPA's draft permit at this time. If presenting an oral statement, a written statement is requested so the EPA can adequately respond to all issues raised.

3. Availability of documents for public review. EPA's administrative record, including all data submitted by the applicant, the fact sheet, the draft permit, maps showing the exact location of the activity, and comments received, may be reviewed and copied at EPA, Region \_\_\_\_\_, \_\_\_\_\_, between the hours of 8:30 a.m. and 4:30 p.m. Monday through Friday. A copying machine will be provided for public use at a charge per page. Any person desiring further information, copies or portions of the administrative record, or an appointment to review the record should contact \_\_\_\_\_ at the above address or call ( ) - \_\_\_\_\_. (If a confidentiality claim has been asserted, explain that EPA will treat the affected information as confidential until EPA's Office of Regional Counsel makes a final determination regarding the confidentiality claim.)

4. Final determination. Any relevant comments received within forty-five days of the date of this public notice will be considered in the formulation of final determination regarding EPA's permit. After considerations of all written comments and the requirements and policies in RCRA and HSWA, EPA will make a final decision to either issue, modify or deny the permit. At that time, EPA will notify the applicant and each person who has submitted written comments or requested notice of the final permit decision. The final permit decision will become effective thirty (30) days after the service of notice of the decision unless a later date is specified or review is requested under regulation 40 CFR §124.19. If no comments requested a change in the draft permit, the final permit will become effective immediately upon issuance.

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